

ST. PAUL TEACHERS' RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1989

THE *Wyatt* COMPANY

ACTUARIAL SERVICES
COMPENSATION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

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EMPLOYEE COMMUNICATIONS
RISK MANAGEMENT
INSURANCE CONSULTING
HEALTH CARE CONSULTING

November 1, 1989

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

RE: ST. PAUL TEACHERS' RETIREMENT FUND

Commission Members:

We have prepared an actuarial valuation of the Fund as of July 1, 1989 based on membership and financial data supplied by the Fund.

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

Respectfully submitted,

THE WYATT COMPANY

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ST. PAUL TEACHERS' RETIREMENT FUND

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COORDINATED

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ST. PAUL TEACHERS' RETIREMENT FUND

REPORT HIGHLIGHTS (DOLLARS IN THOUSANDS)

	<u>07/01/88 VALUATION</u>	<u>07/01/89 VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Statutory Contributions - Chapter 354A % of Payroll	16.34%	15.98%
2. Required Contributions - Chapter 356 % of Payroll	20.84%	19.75%
3. Sufficiency (Deficiency) (A1-A2)	-4.50%	-3.77%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$236,183	\$260,402
b. Current Benefit Obligations (Table 8)	\$360,506	\$405,654
c. Funding Ratio (a/b)	65.51%	64.19%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$236,183	\$260,402
b. Actuarial Accrued Liability (Table 9)	\$392,351	\$434,587
c. Funding Ratio (a/b)	60.20%	59.92%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$427,217	\$460,041
b. Current and Expected Future Benefit Obligations	\$505,722	\$547,666
c. Funding Ratio (a/b)	84.48%	84.00%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	3,280	3,312
b. Projected Annual Earnings	\$95,390	\$102,290
c. Average Annual Earnings (Actual \$)	\$29,082	\$30,885
d. Average Age	42.7	43.0
e. Average Service	10.8	11.1
f. Additional Members on Leave of Absence	117	124
2. Others		
a. Service Retirements (Table 4)	1,064	1,080
b. Disability Retirements (Table 5)	30	30
c. Survivors (Table 6)	116	126
d. Deferred Retirements (Table 7)	36	36
e. Terminated Other Non-vested (Table 7)	1,056	1,186
f. Total	2,302	2,458

ST. PAUL TEACHERS' RETIREMENT FUND

COMMENTARY

Purpose

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

Report Highlights

The statutory contributions for the St. Paul Teachers' Retirement Fund are not sufficient for 1989 by an amount of 3.77% of payroll. According to this valuation a contribution rate of 19.75% is required to comply with Minnesota Law.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on Statement No. 5 of the Governmental Accounting Standards Board. This year's ratio is 64.19%. The corresponding ratio for the prior year was 65.51%.
- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used. For 1989 the ratio is 59.92%, which is a

decrease from the 1988 value of 60.20%.

- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This ratio which is less than 100%, verifies that the current statutory contributions are inadequate.

Asset Information (Tables 1 and 2)

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

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

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

The term MPRIF appears on some of the tables with a corresponding value of zero. MPRIF stands for Minnesota Post Retirement Investment Fund, which is used by many of the public funds. For purposes of consistency all of the actuarial reports follow the same format.

Membership Data (Tables 3, 4, 5, 6 and 7)

Tables 3 through 6 summarize statistical information about members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year except in the case of new full-time hires whose earnings have been annualized.

The service retirements are shown in Table 4 and disabled members are shown in Table 5. Retirees receiving disability benefits are categorized as disabilities rather than service retirees. The survivors category (Table 6) includes spouses and children of deceased members.

A reconciliation of members in Table 7 provides a method for tracking what happened to members during the past year. The reconciliation of active members includes members on leave of absence.

Actuarial Balance Sheet (Table 8)

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

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

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

- o 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.
- o 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 8 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, 1989 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table. This table shows the impact of the changes in plan provisions on the liabilities under the old actuarial assumptions. See page 9 for an explanation of the changes in plan provisions.

	<u>Old Benefits</u>	<u>New Benefits</u>
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$138,216,000	\$138,795,000
Current Employees -		
Accumulated employee contributions including allocated investment income	86,443,000 *	94,854,000 *
Employer-financed vested	131,797,000	154,478,000
Employer-financed nonvested	28,573,000	26,936,000
	-----	-----
Total Pension Benefit Obligation	\$385,029,000	\$415,063,000

* Estimated

The following table shows the impact of the change in actuarial assumptions using the new plan provisions. See page 11 for an explanation of the change in actuarial assumptions.

	<u>Old Assumptions</u>	<u>New Assumptions</u>
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$138,795,000	\$142,213,000
Current Employees -		
Accumulated employee contributions including allocated investment income	94,854,000 *	94,854,000 *
Employer-financed vested	154,478,000	141,030,000
Employer-financed nonvested	26,936,000	27,557,000
	-----	-----
Total Pension Benefit Obligation	\$415,063,000	\$405,654,000

* Estimated

Actuarial Cost Method (Table 9)

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 9) to the actuarial balance sheet (Table 8) 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 9 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 8 and line A6, column 1, of Table 9).

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 10)

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

- o A gain from salaries where the average increase was 6.1% compared to the expected 6.5%.
- o A gain from Current Assets because the return was 10.5% instead of the assumed 8%.

Contribution Sufficiency (Table 11)

This report answers the question of "How adequate are the Statutory

Contributions?" by comparing the Statutory Contributions to the Required Contributions.

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

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

Table 11 shows the Fund has a contribution deficiency since the Statutory Contribution Rate is 15.98% compared to the Required Contribution Rate of 19.75%.

Projected Cash Flow (Table 12)

Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Current Assets. Contributions are then added based on the present statutory rates for employers and employees. The disbursements represent benefit payments and expenses made directly by the Fund.

This projected cash flow assumes that future payrolls increase by 6.5%. Table 12 is the only table in this report where new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8.5% is used to project future investment return.

Changes in Plan Provisions

There were numerous changes in benefits in 1989 that are recognized in the July 1, 1989 actuarial valuation. The significant changes in benefits are summarized below:

- o The service requirement for the normal retirement benefit, early retirement benefit, disability benefit, surviving spouse annuity and deferred benefit for Coordinated members was reduced from 5 years to 3 years. The uninterrupted service requirement for the disability benefit for Coordinated members was reduced from 5 years to 2 years.
- o The retirement benefit for Basic members was changed to be equal to the greater of:
 - 2% of average salary for each year of service up to a maximum of 40 years. The early retirement reduction is .25% for each month that retirement precedes age 65 or age 60 if 25 years of service. If member meets the Rule of 90 requirement, there is no early retirement reduction; or
 - 2.5% of average salary for each year of service. The early retirement reduction is an actuarial equivalent reduction with augmentation at 3% per year to age 65.
- o Special rules apply to those Coordinated members who were hired before July 1, 1989. The retirement benefit was changed to be equal

to the greater of:

- 1% of average salary for the first 10 years of service and 1.5% of average salary for each additional year. The early retirement reduction is .25% for each month that retirement precedes age 65 or age 62 if 30 years of service. If member meets the Rule of 90 requirement, there is no early retirement reduction; or
 - 1.5% of average salary for each year of service. The early retirement reduction is an actuarial equivalent reduction with augmentation at 3% per year to age 65.
- o The deferred annuity is now augmented at 5% a year for each year that the benefit is deferred beyond age 55.
 - o The interest rate credited on refund of member contributions was increased from 5% to 6%.
 - o The joint and survivor annuity option now provides a bounce back feature without additional reduction.

	<u>Impact Due To Changes In Plan Provisions</u>
Actuarial Accrued Liability	\$24,251,000
Pension Benefit Obligation for GASB No. 5	30,034,000
Normal Cost	1.51%
Supplemental Contribution	.87%
Required Contribution	2.38%

Changes in Actuarial Assumptions

The pre-retirement and post-retirement interest rate assumptions have been increased from 8.0% to 8.5% and the amortization target date has been changed to July 1, 2020. In addition, the mortality table has been changed from the 1983 Group Annuity Mortality Table for males and the 1983 Group Annuity Mortality Table set forward one year for females to the 1971 Group Annuity Mortality Table male rates set back 8 years for both males and females. This is the same table that is used by the Teachers Retirement Association. The advantage of changing to this table is that the option factors and early retirement factors for St. Paul Teachers will be identical to those factors applied to the statewide teachers plan.

	Impact Due To Changes In Actuarial Assumptions		
	Interest Rate Change	Amortization Date Change	Mortality Table Change
Actuarial Accrued Liability	(\$26,327,000)	\$0,000,000	\$18,855,000
Pension Benefit Obligation for GASB No. 5	(27,661,000)	0,000,000	18,252,000
Normal Cost	(1.41%)	.00%	.45%
Supplemental Contribution	(.97%)	(1.97%)	.79%
Required Contribution	(2.38%)	(1.97%)	1.24%

Basic and Coordinated

Additional tables at the end of this report show membership data, statutory contributions and normal costs for the Basic and Coordinated Plans.

TABLE 1

ST. PAUL TEACHERS' RETIREMENT FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1989

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$80,981	\$80,981
2. Investments		
a. Fixed Income	111,755	108,059
b. Equity	81,030	60,783
c. Real Estate	729	729
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
4. Other	4,142	4,142
	-----	-----
B. TOTAL ASSETS	\$278,637	\$254,694
	=====	=====
C. AMOUNTS CURRENTLY PAYABLE	\$2,273	\$2,273
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$59,831	\$59,831
2. Employer Reserves	216,533	192,590
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	0	0
	-----	-----
5. Total Assets Available for Benefits	\$276,364	\$252,421
	-----	-----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$278,637	\$254,694
	=====	=====
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$252,421
2. Market Value (D5)	\$276,364	
3. Cost Value (D5)	252,421	

4. Market Over Cost (F2-F3)	\$23,943	
5. 1/3 of Market Over Cost(F4)/3		7,981

6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		\$260,402
		=====

TABLE 2

ST. PAUL TEACHERS' RETIREMENT FUND
CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1989

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF YEAR	\$247,573	\$230,488
B. OPERATING REVENUES		
1. Member Contributions	\$6,625	\$6,625
2. Employer Contributions	9,205	9,205
3. Investment Income	18,591	18,591
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	3,815	3,815
6. Other	0	0
7. Net Change in Unrealized Gain (Loss)	6,858	0
	-----	-----
8. Total Revenue	\$45,094	\$38,236
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$14,156	\$14,156
2. Disability Benefits	522	522
3. Survivor Benefits	828	828
4. Refunds	252	252
5. Expenses	545	545
6. Other	0	0
	-----	-----
7. Total Disbursements	\$16,303	\$16,303
	-----	-----
D. CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF YEAR	\$276,364	\$252,421
	=====	=====

TABLE 3

ST. PAUL TEACHERS' RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1989

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	71	29							100
25-29	149	159	12	1					321
30-34	75	131	85	24					315
35-39	89	131	103	130	45				498
40-44	81	120	75	103	212	83			674
45-49	49	89	56	65	100	140	33		532
50-54	19	35	39	48	72	91	101	20	425
55-59	16	23	13	26	40	58	49	76	301
60-64	11	10	4	14	20	19	12	23	113
65+	6	3	4	2	1	7	3	7	33
TOTAL	566	730	391	413	490	398	198	126	3,312

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	3,419	20,834							8,470
25-29	4,831	22,002	26,047	21,000					14,180
30-34	5,015	21,834	26,074	27,462					19,402
35-39	5,425	23,491	27,755	33,377	39,878				25,206
40-44	5,415	21,725	31,433	37,259	40,522	40,404			31,432
45-49	3,714	23,823	32,663	40,473	41,498	42,015	45,153		34,369
50-54	3,113	23,472	30,392	37,378	42,553	42,620	43,413	45,543	37,877
55-59	3,185	21,416	31,124	35,002	42,394	40,932	43,023	45,506	38,188
60-64	1,657	18,632	25,807	30,465	41,239	42,781	46,167	46,361	35,329
65+	470	6,913	17,446	41,294	38,150	40,446	40,238	44,600	28,185
ALL	4,547	22,313	28,995	35,595	41,138	41,668	43,725	45,618	29,000

PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
2,573	16,288	11,337	14,701	20,158	16,584	8,658	5,748	96,047

TABLE 4

ST. PAUL TEACHERS' RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1989

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	15	58						73
60-64	23	145	56	1				225
65-69	5	75	119	19				218
70-74	1	15	69	63	5			153
75-79			7	115	25	2		149
80-84				19	68	27	3	117
85+					35	56	54	145
TOTAL	44	293	251	217	133	85	57	1,080

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	15,156	14,616						14,727
60-64	20,838	16,935	11,437	17,019				15,966
65-69	13,663	15,612	15,670	10,614				15,163
70-74	30,867	14,930	12,181	10,848	7,805			11,880
75-79			11,619	8,685	7,604	3,856		8,577
80-84				9,786	7,736	4,909	2,749	7,289
85+					6,640	4,733	3,510	4,738
ALL	18,314	16,034	13,653	9,617	7,425	4,768	3,470	11,674

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
806	4,697	3,427	2,087	988	405	198	12,608

TABLE 5

ST. PAUL TEACHERS' RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1989

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1		1	1				3
50-54	1							1
55-59		2	3	1				6
60-64	1	1	2	4				8
65-69			3	3				6
70-74			1					1
75-79					2	1		3
80-84								0
85+						1	1	2
TOTAL	3	3	10	9	2	2	1	30

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	30,119		16,405	9,709				18,744
50-54	29,723							29,723
55-59		23,766	15,050	14,929				17,935
60-64	51,908	32,767	26,669	13,175				23,839
65-69			17,485	21,904				19,695
70-74			16,128					16,128
75-79					5,208	4,400		4,939
80-84								0
85+						3,482	2,117	2,800
TOTAL	37,250	26,766	18,348	15,894	5,208	3,941	2,117	17,966

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
112	80	184	143	10	8	2	539

TABLE 6

ST. PAUL TEACHERS' RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1989

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		4		2	1			7
50-54	1	4	3	1				9
55-59	2	1	2					5
60-64	4	4	5	2				15
65-69	1	9	8	4	2			24
70-74	2	6	8	3	1			20
75-79	1	7	5		3			16
80-84	1	4	7	3	1	2	1	19
85+	2	1	2	2	1	1	2	11
TOTAL	14	40	40	17	9	3	3	126

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		12,646		4,269	3,350			8,925
50-54	17,360	10,112	7,868	4,291				9,523
55-59	21,315	7,046	6,661					12,599
60-64	11,937	17,544	7,017	4,968				10,863
65-69	8,618	8,645	7,387	6,977	2,640			7,446
70-74	7,213	5,902	8,458	6,229	3,945			7,007
75-79	8,950	5,521	7,267		3,494			5,901
80-84	3,522	3,956	4,491	4,143	3,405	1,980	1,441	3,790
85+	8,443	3,470	3,046	7,641	4,734	3,769	2,165	4,960
ALL	11,438	8,485	6,816	5,710	3,466	2,576	1,924	7,254

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
160	339	273	97	31	8	6	914

TABLE 7

ST. PAUL TEACHERS' RETIREMENT FUND
RECONCILIATION OF MEMBERS

	<u>ACTIVES*</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1988	3,397	36	1,056
B. Additions	469	8	329
C. Deletions:			
1. Service Retirement	(39)	(2)	
2. Disability	(3)	(1)	
3. Death	(3)	(1)	0
4. Terminated-Deferred	(8)		
5. Terminated-Refund	(20)	(6)	0
6. Terminated-Other Non-vested	(324)		
7. Returned as Active		0	(30)
D. Data Adjustments	(33)	2	(169)
	Vested	2,424	
	Non-Vested	1,012	
E. Total on June 30, 1989	3,436	36	1,186

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1988	1,064	30	116
B. Additions	48	3	16
C. Deletions:			
1. Service Retirement		0	
2. Death	(33)	(3)	(1)
3. Annuity Expired	0	0	(4)
4. Returned as Active	0	0	
D. Data Adjustments	1	0	(1)
E. Total on June 30, 1989	1,080	30	126

* Includes members on leave.

TABLE 8

ST. PAUL TEACHERS' RETIREMENT FUND

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1989

A. CURRENT ASSETS (TABLE 1, F6)				\$260,402
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions				86,560
2. Present Value of Future Normal Costs				113,079

3. Total Expected Future Assets				199,639

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$460,041
				=====
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>	
1. Benefit Recipients				
a. Retirement Annuities		\$125,708		\$125,708
b. Disability Benefits		5,939		5,939
c. Surviving Spouse and Child Benefits		8,437		8,437
2. Deferred Retirements with Future Augmentation		1,535		1,535
3. Former Members without Vested Rights		594		594
4. Active Members				
a. Retirement Annuities	686	207,384		208,070
b. Disability Benefits	19,057	0		19,057
c. Survivors' Benefits	7,557	0		7,557
d. Deferred Retirements	257	25,952		26,209
e. Refund Liability Due to Death or Withdrawal	0	2,548		2,548
	-----	-----		-----
5. Total Current Benefit Obligations	\$27,557	\$378,097		\$405,654
	-----	-----		-----
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$142,012

F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$547,666
				=====
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				\$145,252
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				\$87,625

TABLE 9

ST. PAUL TEACHERS' RETIREMENT FUND

DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
AND SUPPLEMENTAL CONTRIBUTION RATE
(DOLLARS IN THOUSANDS)

JULY 1, 1989

	ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS <u>(1)</u>	ACTUARIAL PRESENT VALUE OF FUTURE NORMAL COSTS <u>(2)</u>	ACTUARIAL ACCRUED LIABILITY <u>(3)=(1)-(2)</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$327,091	\$71,704	\$255,387
b. Disability Benefits	27,455	10,842	16,613
c. Survivors Benefits	10,502	3,629	6,873
d. Deferred Retirements	36,430	20,186	16,244
e. Refunds Due to Death or Withdrawal	3,975	6,718	(2,743)
	-----	-----	-----
f. Total	\$405,453	\$113,079	\$292,374
	-----	-----	-----
2. Deferred Retirements with Future Augmentation	\$1,535		\$1,535
3. Former Members Without Vested Rights	594		594
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	140,084		140,084
	-----	-----	-----
6. Total	\$547,666	\$113,079	\$434,587
	=====	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$434,587
2. Current Assets (Table 1,F6)			260,402

3. UAAL (B1-B2)			\$174,185
			=====
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls through the Amortization Date of July 1, 2020			\$2,326,878
2. Supplemental Contribution Rate (B3/C1)			7.49%

TABLE 10

ST. PAUL TEACHERS' RETIREMENT FUND

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1989

A. UAAL AT BEGINNING OF YEAR	\$156,168
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$11,746
2. Contribution	(15,830)
3. Interest on A, B1, and B2	12,330

4. Total (B1+B2+B3)	\$8,246

C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$164,414
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$1,882)
2. Investment Return	(5,816)
3. MPRIF Mortality	0
4. Mortality of Other Benefit Recipients	(1,642)
5. Other Items	2,332

6. Total	(\$7,008)

E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D6)	\$157,406
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	\$24,251
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	(\$7,472)

H. UAAL AT END OF YEAR (E+F+G)	\$174,185
	=====

TABLE 11

ST. PAUL TEACHERS' RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

JULY 1, 1989

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	6.60%	\$6,754
2. Employer Contributions	9.38%	9,599
3. Total	----- 15.98% =====	----- \$16,353 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.41%	\$7,589
b. Disability Benefits	1.17%	1,199
c. Survivors	0.41%	415
d. Deferred Retirement Benefits	2.03%	2,075
e. Refunds Due to Death or Withdrawal	0.69%	701
f. Total	----- 11.71% -----	----- \$11,979 -----
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL of \$174,185	7.49%	\$7,662
3. Allowance for Expenses	0.55%	\$563
4. Total	----- 19.75%	----- \$20,204
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)	-3.77%	(\$3,851)

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1989 is \$102,290

TABLE 12

ST. PAUL TEACHERS' RETIREMENT FUND

PROJECTED CASH FLOW
JULY 1, 1989

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>CURRENT ASSETS YEAR END</u>
1989					\$260,402
1990	\$16,353	\$0	\$18,108	\$22,060	280,707
1991	16,725	0	20,373	23,705	300,764
1992	17,301	0	21,942	25,368	321,491
1993	17,943	0	23,528	27,089	342,995
1994	18,555	0	25,474	28,861	364,937
1995	19,215	0	27,882	30,651	386,921
1996	19,848	0	30,447	32,438	408,760
1997	20,510	0	33,089	34,210	430,391
1998	21,196	0	36,074	35,951	451,464
1999	21,868	0	39,305	37,633	471,660
2000	22,615	0	42,931	39,228	490,572
2001	23,396	0	46,782	40,705	507,891
2002	24,250	0	50,979	42,035	523,197
2003	25,124	0	55,203	43,193	536,311
2004	26,061	0	60,014	44,143	546,501
2005	26,911	0	65,421	44,816	552,807
2006	27,864	0	70,530	45,175	555,316
2007	28,911	0	74,552	45,262	554,937
2008	30,170	0	78,298	45,124	551,933
2009	31,594	0	82,177	44,765	546,115
2010	33,168	0	86,105	44,170	537,348
2011	35,035	0	88,574	43,399	527,208
2012	37,080	0	91,346	42,506	515,448
2013	39,304	0	93,846	41,495	502,401
2014	41,786	0	96,798	40,366	487,755
2015	44,475	0	99,015	39,141	472,356
2016	47,342	0	101,404	37,853	456,147
2017	50,411	0	103,965	36,496	439,089
2018	53,686	0	106,253	35,088	421,610
2019	57,176	0	109,797	33,600	402,589
2020	60,892	0	110,731	32,102	384,852

ST. PAUL TEACHERS' RETIREMENT FUND
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement:
	Effective July 1, 1989: 8.5% per annum Prior to July 1, 1989: 8.0% per annum
	Post-Retirement:
	Effective July 1, 1989: 8.5% per annum Prior to July 1, 1989: 8.0% per annum
Salary Increases:	Total reported pay for prior fiscal year increased 6.5% to current fiscal year and 6.5% annually for each future year.
Mortality:	Pre-Retirement:
	Effective July 1, 1989: Male - 1971 Group Annuity Mortality Table male rates set back 8 years Female - 1971 Group Annuity Mortality Table male rates set back 8 years Prior to July 1, 1989: Male - 1983 GAM Female - 1983 GAM set forward 1 year
	Post-Retirement:
	Male - Same as above Female - Same as above
	Post-Disability:
	Male - Same as above Female - Same as above
Retirement Age:	Greater of age 62 and one year from valuation date or earliest date eligible for unreduced benefit. 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.
Separation:	Graded rates shown in rate table.
Disability:	Rates as shown in rate table.
Administrative and Investment Expenses:	Prior year expenses expressed as percentage of prior year payroll. (0.55% of payroll)
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.

TABLE 13
(cont)

Family Composition:	85% of male Members and 60% of female Members are assumed to be married. Female is four years younger than male. Assume Members have two children.
Social Security:	NA
Benefit Increases After Retirement:	NA
Special Consideration:	<p>Annual bonus payment totaling 1% of the year end assets is accounted for by using a 7.5% post and pre-retirement interest rate.</p> <p>Married Coordinated Members assumed to elect subsidized joint and survivor form of annuity as follows:</p> <p>Males - 15% elect 50% J & S option; 50% elect 100% J & S option;</p> <p>Females - 10% elect 50% J & S option; 10% elect 100% J & S option.</p>
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.
Asset Valuation Method:	Cost Value plus one-third Unrealized Gains or Losses.
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.
Projected Cash Flow Method:	Cash flows from the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition, new entrants were assumed so that the total payroll would increase by 6.5% per annum.

TABLE 13
(cont)SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000

Age	Death		Withdrawal		Disability		Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female
20	4	4	600	1,000	7	7	0	0
21	4	4	600	1,000	7	7	0	0
22	4	4	600	1,000	7	7	0	0
23	4	4	600	1,000	7	7	0	0
24	4	4	600	1,000	7	7	0	0
25	5	5	600	1,000	8	8	0	0
26	5	5	600	1,000	8	8	0	0
27	5	5	600	1,000	8	8	0	0
28	5	5	600	1,000	8	8	0	0
29	5	5	600	1,000	8	8	0	0
30	5	5	600	1,000	8	8	0	0
31	6	6	570	1,000	9	9	0	0
32	6	6	540	1,000	9	9	0	0
33	6	6	510	1,000	9	9	0	0
34	7	7	480	1,000	9	9	0	0
35	7	7	450	1,000	10	10	0	0
36	7	7	430	960	10	10	0	0
37	8	8	410	920	10	10	0	0
38	8	8	390	880	11	11	0	0
39	9	9	370	840	11	11	0	0
40	9	9	350	800	12	12	0	0
41	10	10	340	720	12	12	0	0
42	10	10	330	640	13	13	0	0
43	11	11	320	560	14	14	0	0
44	12	12	310	530	15	15	0	0
45	13	13	300	500	16	16	0	0
46	14	14	280	460	18	18	0	0
47	15	15	260	420	19	19	0	0
48	16	16	240	380	21	21	0	0
49	18	18	220	340	22	22	0	0
50	20	20	200	300	24	24	0	0
51	23	23	180	260	26	26	0	0
52	26	26	160	220	29	29	0	0
53	29	29	140	180	32	32	0	0
54	33	33	120	140	36	36	0	0

TABLE 13
(cont)

<u>Age</u>	<u>Death</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
55	38	38	100	100	40	40	0	0
56	42	42	80	80	46	46	0	0
57	47	47	60	60	53	53	0	0
58	53	53	40	40	61	61	0	0
59	59	59	20	20	72	72	0	0
60	65	65	0	0	84	84	0	0
61	71	71	0	0	98	98	0	0
62	78	78	0	0	113	113	10,000	10,000
63	85	85	0	0	131	131	0	0
64	93	93	0	0	149	149	0	0
65	100	100	0	0	0	0	0	0
66	109	109	0	0	0	0	0	0
67	119	119	0	0	0	0	0	0
68	131	131	0	0	0	0	0	0
69	144	144	0	0	0	0	0	0
70	159	159	0	0	0	0	0	0

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 3A
BASIC

ACTIVE MEMBERS AS OF JUNE 30, 1989

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34				9					9
35-39			12	72	40				124
40-44			5	64	202	77			348
45-49			4	37	92	133	31		297
50-54			2	22	67	90	99	20	300
55-59			1	12	39	57	48	76	233
60-64			1	5	18	17	12	23	76
65+				1	1	6	3	7	18
TOTAL	0	0	25	222	459	380	193	126	1,405

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34				25,300					25,300
35-39			21,510	33,652	40,394				34,652
40-44			27,374	37,720	40,535	40,552			39,832
45-49			31,199	41,449	41,445	41,889	45,671		41,947
50-54			26,696	37,478	42,921	42,665	43,559	45,543	42,722
55-59			25,180	36,675	42,404	40,942	43,114	45,506	42,836
60-64			25,780	38,825	41,234	42,929	46,167	46,361	43,582
65+				40,750	38,150	40,001	40,238	44,600	41,768
ALL	0	0	24,966	36,477	41,234	41,676	43,898	45,618	41,072

PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	624	8,098	18,927	15,837	8,472	5,748	57,706

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 4A
BASIC

SERVICE RETIREMENTS AS OF JUNE 30, 1989

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	14	57						71
60-64	22	140	56	1				219
65-69	3	70	116	19				208
70-74	1	15	63	63	5			147
75-79			6	115	25	2		148
80-84				19	68	27	3	117
85+					35	56	54	145
TOTAL	40	282	241	217	133	85	57	1,055

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	16,014	14,864						15,090
60-64	21,723	17,312	11,437	17,019				16,251
65-69	20,236	16,636	15,864	10,614				15,708
70-74	30,867	14,930	13,043	10,848	7,805			12,238
75-79			13,336	8,685	7,604	3,856		8,626
80-84				9,786	7,736	4,909	2,749	7,289
85+					6,640	4,733	3,510	4,738
ALL	19,842	16,522	14,035	9,617	7,425	4,768	3,470	11,861

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
794	4,659	3,382	2,087	988	405	198	12,513

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 5A
BASIC

DISABILITY RETIREMENTS AS OF JUNE 30, 1989

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1		1	1				3
50-54	1							1
55-59		2	3	1				6
60-64	1	1	2	4				8
65-69			3	3				6
70-74			1					1
75-79					2	1		3
80-84								0
85+						1	1	2
TOTAL	3	3	10	9	2	2	1	30

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	30,119		16,405	9,709				18,744
50-54	29,723							29,723
55-59		23,766	15,050	14,929				17,935
60-64	51,908	32,767	26,669	13,175				23,839
65-69			17,485	21,904				19,695
70-74			16,128					16,128
75-79					5,208	4,400		4,939
80-84								0
85+						3,482	2,117	2,800
TOTAL	37,250	26,766	18,348	15,894	5,208	3,941	2,117	17,966

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
112	80	184	143	10	8	2	539

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 6A
BASIC

SURVIVORS AS OF JUNE 30, 1989

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		4		2	1			7
50-54	1	4	3	1				9
55-59	2	1	2					5
60-64	4	4	5	2				15
65-69	1	9	8	4	2			24
70-74	2	6	8	3	1			20
75-79	1	7	5		3			16
80-84	1	4	7	3	1	2	1	19
85+	2	1	2	2	1	1	2	11
TOTAL	14	40	40	17	9	3	3	126

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		12,646		4,269	3,350			8,925
50-54	17,360	10,112	7,868	4,291				9,523
55-59	21,315	7,046	6,661					12,599
60-64	11,937	17,544	7,017	4,968				10,863
65-69	8,618	8,645	7,387	6,977	2,640			7,446
70-74	7,213	5,902	8,458	6,229	3,945			7,007
75-79	8,950	5,521	7,267		3,494			5,901
80-84	3,522	3,956	4,491	4,143	3,405	1,980	1,441	3,790
85+	8,443	3,470	3,046	7,641	4,734	3,769	2,165	4,960
ALL	11,438	8,485	6,816	5,710	3,466	2,576	1,924	7,254

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH							
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
160	339	273	97	31	8	6	914

ST. PAUL TEACHERS' RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11A
BASIC

JULY 1, 1989

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	8.00%	\$4,917
2. Employer Contributions	12.63%	7,762
	-----	-----
3. Total	20.63%	\$12,679
	=====	=====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356 (NORMAL COST ONLY)		
1. Normal Cost		
a. Retirement Benefits	8.40%	\$5,164
b. Disability Benefits	1.59%	978
c. Survivors	0.61%	374
d. Deferred Retirement Benefits	2.50%	1,539
e. Refunds Due to Death or Withdrawal	0.85%	521
	-----	-----
f. Total	13.95%	\$8,576
	-----	-----

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1989 is \$61,457

ST. PAUL TEACHERS' RETIREMENT FUND

SUMMARY OF PLAN PROVISIONS

Eligibility	A teacher who is employed in a public school district located in the corporate limits of the City of St. Paul and who is not covered by the Social Security Act. Also includes employees of the St. Paul Teachers' Retirement Fund.
Contributions Member	8.0% of Salary.
Employer	12.63% of Salary.
Allowable Service	All periods of service for which salary deductions were made and service during sabbatical leave. After June 30, 1974, St. Paul service for part-time teachers is granted on a proportional basis of actual duty days to the agreed number of annual duty days. Years of service credited prior to May 31, 1976 shall not be recomputed.
Salary	Total compensation. Excludes lump sum payments for unused vacation leave or unused sick leave at separation.
Average Salary	Average of the 5 highest years of Salary during the last 10 years while making contributions or while disabled.
RETIREMENT	
Normal Retirement Benefit Eligibility	Age 65 and 5 years of Allowable Service. - Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.
Amount	2.5% of Average Salary for each year of Allowable Service. <u>(Amended 1989)</u>
Early Retirement Benefit Eligibility	Age 55 and 5 years of Allowable Service. Age 60 and 25 years of Allowable Service. Rule of 90: Age plus Allowable Service totals 90. <u>(Amended 1989)</u>
Amount	The greater of 2% of Average Salary for each year of Allowable Service not to exceed 40 years with reduction of 0.25% for each month the Member is under age 65 (age 60 if 25 years of Allowable Service). No

TABLE 14A
BASIC
(cont)

reduction if age plus years of Allowable Service totals 90

or

2.5% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3% per year and actuarial reduction for each month the Member is under age 65. (Amended 1989)

Form of Payment

Life annuity.

Benefit Increases

If the investment income of the fund was at least 6% of the asset value of the fund at the end of the fiscal year, the Board of Trustees may declare a bonus of up to 1% of the asset value of the fund at the end of the fiscal year. This bonus is allocated to those eligible on a prorated basis according to the combined number of years of service and years receiving a benefit. A retired Member is eligible if receiving an annuity for at least 3 years.

Members retired under laws in effect before January 1, 1970 receive an additional lump sum payment each year. In 1989, this lump sum payment is the greater of \$25 times each full year of Allowable Service or the difference between \$400 times each full year of Allowable Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year the lump sum will increase by the same increase that is applied to regular annuities. (Amended 1989)

DISABILITY

Disability Benefit
Eligibility

Totally and permanently disabled before the age of 65 with 5 years of St. Paul service.

Amount

An annuity of 75% of the annual contract salary for the last full year of service reduced by any Social Security and Workers' Compensation benefits.

Payments are recomputed as a retirement at age 65. Payments stop if disability ceases or death occurs.

Form of Payment

Life annuity.

Benefit Increases

Same as for retirement.

TABLE 14A
BASIC
(cont)

Retirement After Disability Eligibility	Age 65 with continued disability.
Amount	Normal Retirement Benefit based on Average Salary and Allowable Service as if Member had continued in his latest position during the period of his disability.
Form of Payment	Life annuity.
Benefit Increases	Same as for retirement.
DEATH	
Family Benefits Eligibility	Active Member with 3 years of St. Paul service.
Amount	Benefit of 15% of B.A. salary to spouse plus 25% of B.A. salary to each eligible child (maximum of 2). B.A. salary is the maximum salary payable to a teacher holding a B.A. degree. Spouse's benefits cease upon remarriage, death, or when the spouse elects survivor's benefits. Such election does not affect benefits paid to children but total benefits may not exceed 90% of the Member's final salary. Children's benefits cease upon marriage or age 18 (22 if full time student).
Survivor's Benefits Eligibility	Active or retired Member with 5 years of St Paul service. A surviving spouse must have been married to the Member for 3 years at the time of his death or retirement, whichever occurs first.
Amount	Survivor's payment of the 100% joint and survivor benefit earned by the Member to the date of his death or his retirement, whichever occurs first.
Benefit Increases	Same as for a retired person if payments have been made over three years. The allocation is based on the years of service of the person on whose behalf the annuity is paid and the years receiving payment.
Refund of Contributions Eligibility	Death of a Member or former Member when Family Benefits and Survivor's Benefits are not payable.

TABLE 14A
BASIC
(cont)

Amount	The excess of the Member's contributions with 5% interest if death occurred before May 16, 1989 and 6% interest if death occurred on or after May 16, 1989 (unless the Member was disabled) over total benefits paid. <u>(Amended 1989)</u>
TERMINATION	
Refund of Contributions	
Eligibility	Termination of teaching service.
Amount	Member's contributions with 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 deferred annuity may be elected in lieu of a refund. <u>(Amended 1989)</u>
Deferred Annuity	
Eligibility	5 years of Allowable Service.
Amount	Benefit computed under law in effect at termination and increased by the following annual percentage: 3% until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement. <u>(Amended 1989)</u>

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 3B
COORDINATED

ACTIVE MEMBERS AS OF JUNE 30, 1989

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	71	29							100
25-29	149	159	12	1					321
30-34	75	131	85	15					306
35-39	89	131	91	58	5				374
40-44	81	120	70	39	10	6			326
45-49	49	89	52	28	8	7	2		235
50-54	19	35	37	26	5	1	2		125
55-59	16	23	12	14	1	1	1		68
60-64	11	10	3	9	2	2			37
65+	6	3	4	1		1			15
TOTAL	566	730	366	191	31	18	5	0	1,907

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	3,419	20,834							8,470
25-29	4,831	22,002	26,047	21,000					14,180
30-34	5,015	21,834	26,074	28,760					19,229
35-39	5,425	23,491	28,579	33,036	35,753				22,074
40-44	5,415	21,725	31,723	36,503	40,261	38,504			22,465
45-49	3,714	23,823	32,776	39,184	42,111	44,412	37,120		24,790
50-54	3,113	23,472	30,592	37,294	37,624	38,577	36,172		26,250
55-59	3,185	21,416	31,619	33,568	41,987	40,363	38,650		22,263
60-64	1,657	18,632	25,816	25,821	41,285	41,515			18,378
65+	470	6,913	17,446	41,838		43,115			11,886
ALL	4,547	22,313	29,270	34,571	39,708	41,500	37,047	0	20,105

PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
2,573	16,289	10,713	6,603	1,231	747	185	0	38,341

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 4B
COORDINATED

SERVICE RETIREMENTS AS OF JUNE 30, 1989

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	1	1						2
60-64	1	5						6
65-69	2	5	3					10
70-74			6					6
75-79			1					1
80-84								0
85+								0
TOTAL	4	11	10	0	0	0	0	25

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	3,155	486						1,821
60-64	1,382	6,382						5,549
65-69	3,805	1,273	8,137					3,839
70-74			3,122					3,122
75-79			1,322					1,322
80-84								0
85+								0
ALL	3,037	3,524	4,446	0	0	0	0	3,815

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
12	39	44	0	0	0	0	95

ST. PAUL TEACHERS' RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11B
COORDINATED

JULY 1, 1989

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	4.50%	\$1,837
2. Employer Contributions	4.50%	1,837
	-----	-----
3. Total	9.00%	\$3,674
	=====	=====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356 (NORMAL COST ONLY)		
1. Normal Cost		
a. Retirement Benefits	5.94%	\$2,425
b. Disability Benefits	0.54%	221
c. Survivors	0.10%	41
d. Deferred Retirement Benefits	1.31%	536
e. Refunds Due to Death or Withdrawal	0.44%	180
	-----	-----
f. Total	8.33%	\$3,403
	-----	-----

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1989 is \$40,833

ST. PAUL TEACHERS' RETIREMENT FUND

SUMMARY OF PLAN PROVISIONS

Eligibility	A teacher who is employed by a public school district located in the corporate limits of the City of St. Paul and who is covered by the Social Security Act. Also includes employees of the St. Paul Teachers' Retirement Fund.
Contributions	
Member	4.5% of Salary.
Employer	4.5% of Salary.
Allowable Service	All periods of service for which salary deductions were made and service during sabbatical leave. After June 30, 1974, St. Paul service for part-time teachers is granted on a proportional basis of actual duty days to the agreed number of annual duty days. Years of service credited prior to May 31, 1976 shall not be recomputed.
Salary	Total Compensation. Excludes lump sum payments for unused vacation leave or unused sick leave at separation.
Average Salary	Average of the 5 highest successive years of Salary. Average Salary is based on all Allowable Service if less than 5 years. <u>(Amended 1989)</u>

RETIREMENT

Normal Retirement Benefit

Eligibility	First hired before July 1, 1989: Age 65 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service <u>(Amended 1989)</u> First hired after June 30, 1989: The greater of age 65 or the age eligible for full Social Security retirement benefits and 3 years of Allowable Service. <u>(Amended 1989)</u> Proportionate Retirement Annuity is available at normal retirement age and 1 year of Allowable Service.
Amount	1.5% of Average Salary for each year of Allowable Service. <u>(Amended 1989)</u>

TABLE 14B
COORDINATED
(cont)

Early Retirement Benefit
Eligibility

Age 55 and 3 years of Allowable Service.
Any age with 30 years of Allowable Service.
Rule of 90: Age plus Allowable Service totals 90.
(Amended 1989)

Amount

First hired before July 1, 1989:

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 with reduction of 0.25% for each month the Member is under age 65 at time of retirement (age 62 if 30 years of Allowable Service). No reduction if age plus years of Allowable Service totals 90

or

1.5% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3% per year and actuarial reduction for each month the Member is under age 65. (Amended 1989)

First hired after June 30, 1989:

1.5% of Average Salary for each year of Allowable Service assuming augmentation to the age eligible for full Social Security retirement benefits at 3% per year and actuarial reduction for each month the Member is under the Social Security retirement age.
(Amended 1989)

Form of Payment

Life annuity. Actuarially equivalent options are:
Guaranteed refund
15 year certain and life
50% or 100% joint and survivor with bounce back feature without additional reduction (option is cancelled if Member is pre-deceased by beneficiary).
(Amended 1989)

Benefit Increases

If the investment income of the fund was at least 6% of the asset value of the fund at the end of the fiscal year, the Board of Trustees may declare a bonus of up to 1% of the asset value of the fund at the end of the fiscal year. This bonus is allocated to those eligible on a prorated basis according to the combined number of years of service and years receiving a benefit. A retired Member is eligible if receiving an annuity for at least 3 years.

TABLE 14B
COORDINATED
(cont)

DISABILITY

Disability Benefit
Eligibility

Total and permanent disability before normal retirement age with 3 years of Allowable Service. Also, at least 2 of the years of Allowable Service must have been uninterrupted. (Amended 1989)

Amount

Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before normal retirement age. Benefit is reduced by Worker's Compensation.

Payments are recomputed as a retirement at normal retirement age. Payments stop if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.

Form of Payment

Same as for retirement.

Benefit Increases

Same as for retirement.

Retirement After
Disability
Eligibility

Normal retirement age with continued disability.

Amount

Any optional annuity continues. Otherwise the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.

Benefit Increases

Same as for retirement.

DEATH

Surviving Spouse Annuity
Eligibility

Member or former Member who dies before retirement or disability benefits commence, if age 50 with 3 years of Allowable Service or any age with 30 years of Allowable Service. If the Member dies before age 55, benefits commence when Member would have been age 55. (Amended 1989)

Amount

Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated.

Benefit Increases

Same as for a retired person if payments have been made over three years. The allocation is based on the years of service of the person on whose behalf the annuity is paid and the years receiving payment.

**TABLE 14B
COORDINATED
(cont)**

Refund of Contributions Eligibility	Member or former Member dies before receiving any disability or retirement benefits and survivor benefits are not payable.
Amount	Member's contributions with 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. <u>(Amended 1989)</u>
TERMINATION	
Refund of Contributions Eligibility	Termination of teaching service.
Amount	Member's contributions with 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 deferred annuity may be elected in lieu of a refund. <u>(Amended 1989)</u>
Deferred Benefit Eligibility	3 years of Allowable Service. <u>(Amended 1989)</u>
Amount	Benefit computed under law in effect at termination and increased by the following annual percentage: 3% until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement. <u>(Amended 1989)</u>