

ST. PAUL TEACHERS' RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1988

THE *Wyatt* COMPANY

AN INDEPENDENT WORLDWIDE BENEFITS
AND COMPENSATION CONSULTING FIRM

ACTUARIAL SERVICES
COMPENSATION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

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EMPLOYEE BENEFITS
EMPLOYEE COMMUNICATIONS
RISK MANAGEMENT
INSURANCE CONSULTING
HEALTH CARE CONSULTING

November 16, 1988

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

RE: ST. PAUL TEACHERS' RETIREMENT FUND

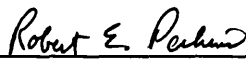
Commission Members:

We have prepared an actuarial valuation of the Fund as of July 1, 1988 based on membership and financial data supplied by the Fund.

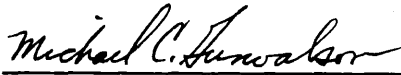
We certify that to the best of our knowledge and belief this actuarial valuation was performed in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on August 22, 1988.

Respectfully submitted,

THE WYATT COMPANY



Robert E. Perkins, FSA
Consulting Actuary



Michael C. Gunvalson, ASA
Associate Actuary

ST. PAUL TEACHERS' RETIREMENT FUND

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ST. PAUL TEACHERS' RETIREMENT FUND

REPORT HIGHLIGHTS (DOLLARS IN THOUSANDS)

	<u>07/01/87</u> <u>VALUATION</u>	<u>07/01/88</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Statutory Contributions - Chapter 354A % of Payroll	16.74%	16.34%
2. Required Contributions - Chapter 356 % of Payroll	20.39%	20.84%
3. Sufficiency (Deficiency) (A1-A2)	-3.65%	-4.50%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$227,563	\$236,183
b. Current Benefit Obligations (Table 8)	\$340,641	\$360,506
c. Funding Ratio (a/b)	66.80%	65.51%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$227,563	\$236,183
b. Actuarial Accrued Liability (Table 9)	\$371,278	\$392,351
c. Funding Ratio (a/b)	61.29%	60.20%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$419,349	\$427,217
b. Current and Expected Future Benefit Obligations	\$482,017	\$505,722
c. Funding Ratio (a/b)	87.00%	84.48%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	3,264	3,280
b. Projected Annual Earnings	\$90,392	\$95,390
c. Average Annual Earnings (Actual \$)	\$27,694	\$29,082
d. Average Age	42.6	42.7
e. Average Service	10.6	10.8
f. Additional Members on Leave of Absence	99	117
2. Others		
a. Service Retirements (Table 4)	1,050	1,064
b. Disability Retirements (Table 5)	31	30
c. Survivors (Table 6)	110	116
d. Deferred Retirements (Table 7)	39	36
e. Terminated Other Non-vested (Table 7)	1,955	1,056
f. Total	3,185	2,302

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 1988 by an amount of 4.50% of payroll. According to this valuation a contribution rate of 20.84% 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 65.51%. The corresponding ratio for the prior year was 66.80%.
- 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 1988 the ratio is 60.20%, which is a

decrease from the 1987 value of 61.29%.

- 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 hires where the earnings are the larger of the prior fiscal year or the contract salary.

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.

The reconciliation of active members in Table 7 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, 1988 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table. The liabilities based on the old benefit provisions are provided for comparison. See page 8 for an explanation of the change in benefits.

	<u>Old Benefits</u>	<u>New Benefits</u>
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$130,694,000	\$130,694,000
Current Employees -		
Accumulated employee contributions including allocated investment income	81,019,000 *	81,019,000 *
Employer-financed vested	122,710,000	121,579,000
Employer-financed nonvested	26,090,000	27,214,000
	-----	-----
Total Pension Benefit Obligation	\$360,513,000	\$360,506,000

* Estimated

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal 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 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 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 5.5% compared to the expected 6.5%
- o A loss from Current Assets because the return was 4.1% 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 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 16.34% compared to the Required Contribution Rate of 20.84%.

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% is used to project future investment return.

Changes in Actuarial Assumptions

This valuation does not reflect any changes in actuarial assumptions since the prior valuation.

Changes in Plan Provisions

Vesting eligibility for Basic members has been reduced from 10 years to 5 years. This change applies to the Deferred Annuity, the Normal Retirement Benefit, the Early Retirement Benefit and the Survivor's Benefit.

	<u>Impact Due to Change In Vesting</u>
Actuarial Accrued Liability	\$(69,000)
Projected Benefit Obligation for GASB No. 5	(7,000)
Normal Cost	.04%
Supplemental Contribution	.00%
Required Contribution	.04%

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.

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 1

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1988

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$51,915	\$51,915
2. Investments		
a. Fixed Income	93,887	91,061
b. Equity	97,175	82,916
c. Real Estate	729	729
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
4. Other	5,038	5,038
B. TOTAL ASSETS	----- \$248,744 =====	----- \$231,659 =====
C. AMOUNTS CURRENTLY PAYABLE	\$1,171	\$1,171
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$55,269	\$55,269
2. Employer Reserves	192,304	175,219
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	0	0
5. Total Assets Available for Benefits	----- \$247,573 -----	----- \$230,488 -----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	----- \$248,744 =====	----- \$231,659 =====
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$230,488
2. Market Value (D5)	\$247,573	
3. Cost Value (D5)	230,488	
4. Market Over Cost (F2-F3)	----- \$17,085	
5. 1/3 of Market Over Cost(F4)/3		5,695
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		----- \$236,183 =====

TABLE 2

ST. PAUL TEACHERS' RETIREMENT FUND

CHANGES IN ASSETS AVAILABLE FOR BENEFITS AND ASSET ALLOCATION
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1988

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF YEAR	\$262,626	\$210,032
B. OPERATING REVENUES		
1. Member Contributions	\$6,256	\$6,256
2. Employer Contributions	8,866	8,866
3. Investment Income	14,279	14,279
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	6,895	6,895
6. Other	0	0
7. Net Change in Unrealized Gain (Loss)	(35,509)	0
	-----	-----
8. Total Revenue	\$787	\$36,296
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$13,528	\$13,528
2. Disability Benefits	429	429
3. Survivor Benefits	734	734
4. Refunds	656	656
5. Expenses	493	493
6. Other	0	0
	-----	-----
7. Total Disbursements	\$15,840	\$15,840
	-----	-----
D. CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF YEAR	\$247,573	\$230,488
	=====	=====

TABLE 3

ST. PAUL TEACHERS' RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1988

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	99	24							123
25-29	146	156	8						310
30-34	88	134	107	23					352
35-39	81	113	112	115	71				492
40-44	98	114	71	85	236	59			663
45-49	53	63	56	56	121	109	33		491
50-54	24	37	36	42	82	90	83	24	418
55-59	19	24	12	21	48	47	49	72	292
60-64	16	4	6	12	19	18	8	24	107
65+	10	2	4	2	2	3	4	5	32
TOTAL	634	671	412	356	579	326	177	125	3,280

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	3,321	21,507							6,870
25-29	3,006	21,937	24,409						13,085
30-34	4,155	21,714	24,273	26,397					18,408
35-39	5,401	22,129	27,432	33,347	38,522				25,570
40-44	3,361	23,420	30,401	35,692	38,495	39,340			29,559
45-49	3,709	21,659	31,839	37,477	40,400	41,021	43,641		33,081
50-54	4,083	19,590	29,070	35,992	40,039	40,899	41,416	46,382	35,636
55-59	1,522	20,114	31,698	34,137	40,160	39,659	40,211	44,974	36,332
60-64	7,022	15,734	18,640	30,658	40,309	40,620	44,386	43,858	33,269
65+	967	12,325	16,372	37,597	38,618	37,114	36,492	38,397	21,923
ALL	3,700	21,875	27,696	34,400	39,313	40,429	41,520	44,767	27,307

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
2,346	14,678	11,411	12,246	22,762	13,180	7,349	5,596	89,568

TABLE 4

ST. PAUL TEACHERS' RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1988

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	11	76						87
60-64	23	141	57					221
65-69	5	73	110	10				198
70-74	1	13	70	64	4			152
75-79			3	121	17	1		142
80-84				26	69	25	3	123
85+					37	44	60	141
TOTAL	40	303	240	221	127	70	63	1,064

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	6,915	17,366						16,045
60-64	21,483	15,974	11,518					15,398
65-69	20,663	14,807	14,978	9,757				14,795
70-74	14,450	16,792	10,680	10,266	4,683			10,895
75-79			8,994	8,374	6,234	2,886		8,092
80-84				10,115	6,805	4,636	2,425	6,957
85+					5,595	4,841	3,486	4,462
ALL	17,198	16,077	12,828	9,189	6,309	4,740	3,436	11,295

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
688	4,871	3,079	2,031	801	332	216	12,018

TABLE 5

ST. PAUL TEACHERS' RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1988

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		1		1				2
50-54		1		1				2
55-59	2		3	1				6
60-64		2	2	2				6
65-69			5	2				7
70-74				2	1			3
75-79					1	1		2
80-84								0
85+					1		1	2
TOTAL	2	4	10	9	3	1	1	30

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		16,405		9,709				13,057
50-54		23,940		14,929				19,435
55-59	22,262		15,050	13,548				17,203
60-64		28,062	23,031	11,535				20,876
65-69			18,534	20,812				19,185
70-74				11,771	6,228			9,923
75-79					4,188	4,400		4,294
80-84								0
85+					3,482		2,117	2,800
TOTAL	22,262	24,117	18,388	14,047	4,633	4,400	2,117	15,724

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
45	96	185	126	14	4	2	472

TABLE 6

ST. PAUL TEACHERS' RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1988

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	4	1	4	2	1			12
50-54	2	2	2	1				7
55-59	1	1	2					4
60-64		5	4	3	1			13
65-69	2	14	4	4				24
70-74		4	9	1	1			15
75-79	1	5	5	1	3	1		16
80-84	1	6	4	4	2		1	18
85+		2	1		1	1	2	7
TOTAL	11	40	35	16	9	2	3	116

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	12,725	7,333	5,280	4,182	3,350			7,589
50-54	13,950	6,275	9,225	4,291				9,027
55-59	7,046	18,318	6,661					9,671
60-64		14,442	7,365	5,671	2,520			9,323
65-69	6,735	7,216	8,623	5,898				7,191
70-74		6,250	8,420	1,596	3,945			7,088
75-79	3,092	5,398	7,726	8,568	3,494	2,259		5,626
80-84	4,077	3,927	4,028	5,626	2,552		1,441	4,044
85+		3,018	3,524		4,734	3,769	2,165	3,199
ALL	9,680	7,326	7,168	5,370	3,348	3,014	1,924	6,709

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
106	293	251	86	30	6	6	778

ST. PAUL TEACHERS' RETIREMENT FUND
RECONCILIATION OF MEMBERS

TABLE 7

	<u>ACTIVES*</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1987	3,363	39	1,955
B. Additions	576	12	375
C. Deletions:			
1. Service Retirement	(47)	0	
2. Disability	(2)		
3. Death	(9)	0	0
4. Terminated-Deferred	(12)		
5. Terminated-Refund	(98)	(16)	(1,243)
6. Terminated-Other Non-vested	(375)		
7. Returned as Active		1	(31)
D. Data Adjustments	1	0	0
	Vested	2,034	
	Non-Vested	1,363	
E. Total on June 30, 1988	3,397	36	1,056

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1987	1,050	31	110
B. Additions	57	2	11
C. Deletions:			
1. Service Retirement		0	
2. Death	(43)	(3)	(4)
3. Annuity Expired	0	0	(1)
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1988	1,064	30	116

* Includes members on leave.

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 8

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1988

A. CURRENT ASSETS (TABLE 1, F6)				\$236,183
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions				77,663
2. Present Value of Future Normal Costs				113,371
3. Total Expected Future Assets				191,034
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$427,217
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>	
1. Benefit Recipients				
a. Retirement Annuities		\$118,005		\$118,005
b. Disability Benefits		3,805		3,805
c. Surviving Spouse and Child Benefits		7,048		7,048
2. Deferred Retirements with Future Augmentation		1,312		1,312
3. Former Members without Vested Rights		524		524
4. Active Members				
a. Retirement Annuities	1,635	180,765		182,400
b. Disability Benefits	15,279	0		15,279
c. Survivors' Benefits	10,059	0		10,059
d. Deferred Retirements	241	18,172		18,413
e. Refund Liability Due to Death or Withdrawal	0	3,661		3,661
5. Total Current Benefit Obligations	\$27,214	\$333,292		\$360,506
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$145,216
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$505,722
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				\$124,323
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				\$78,505

TABLE 9

ST. PAUL TEACHERS' RETIREMENT FUND

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

JULY 1, 1988

	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	\$306,868	\$75,485	\$231,383
b. Disability Benefits	22,501	9,562	12,939
c. Survivors Benefits	14,115	5,172	8,943
d. Deferred Retirements	25,657	11,702	13,955
e. Refunds Due to Death or Withdrawal	5,887	11,450	(5,563)
	-----	-----	-----
f. Total	\$375,028	\$113,371	\$261,657
	-----	-----	-----
2. Deferred Retirements with Future Augmentation	\$1,312		\$1,312
3. Former Members Without Vested Rights	524		524
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	128,858		128,858
	-----	-----	-----
6. Total	\$505,722	\$113,371	\$392,351
	=====	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$392,351
2. Current Assets (Table 1,F6)			236,183

3. UAAL (B1-B2)			\$156,168
			=====
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls through the Amortization Date of July 1, 2010			\$1,745,225
2. Supplemental Contribution Rate (B3/C1)			8.95%

TABLE 10

ST. PAUL TEACHERS' RETIREMENT FUND

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

YEAR ENDING JUNE 30, 1988

A. UAAL AT BEGINNING OF YEAR	\$143,715
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$11,024
2. Contribution	(15,122)
3. Interest on A, B1, and B2	11,333
4. Total (B1+B2+B3)	----- \$7,235 -----
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$150,950
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$4,529)
2. Investment Return	8,838
3. MPRIF Mortality	0
4. Mortality of Other Benefit Recipients	(660)
5. Other Items	1,638
6. Total	----- \$5,287 -----
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D6)	\$156,237
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	(\$69)
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	\$0
H. UAAL AT END OF YEAR (E+F+G)	----- \$156,168 =====

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

TABLE 11

JULY 1, 1988

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	6.71%	\$6,401
2. Employer Contributions	9.63%	9,190
3. Total	----- 16.34% =====	----- \$15,591 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.59%	\$7,248
b. Disability Benefits	0.99%	941
c. Survivors	0.55%	522
d. Deferred Retirement Benefits	1.15%	1,094
e. Refunds Due to Death or Withdrawal	1.08%	1,027
f. Total	----- 11.36% -----	----- \$10,832 -----
2. Supplemental Contribution Amortization by July 1, 2010 of UAAL of \$156,168	8.95%	\$8,537
3. Allowance for Expenses	0.53%	\$506
4. Total	----- 20.84%	----- \$19,875
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)		
	-4.50%	(\$4,284)

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1988 is \$95,390

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 12

PROJECTED CASH FLOW
JULY 1, 1988

<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>
1988					\$236,183
1989	\$15,591	\$0	\$16,775	\$18,847	253,846
1990	16,027	0	18,342	20,215	271,746
1991	16,683	0	19,142	21,641	290,928
1992	17,315	0	20,335	23,153	311,061
1993	17,990	0	21,717	24,736	332,070
1994	18,648	0	23,377	26,376	353,717
1995	19,257	0	25,707	28,039	375,306
1996	19,908	0	28,025	29,700	396,889
1997	20,653	0	30,151	31,371	418,762
1998	21,401	0	32,615	33,052	440,600
1999	22,061	0	35,790	34,699	461,570
2000	22,755	0	39,203	36,268	481,390
2001	23,513	0	42,706	37,743	499,940
2002	24,482	0	45,701	39,146	517,867
2003	25,475	0	49,029	40,487	534,800
2004	26,559	0	52,352	41,752	550,759
2005	27,557	0	56,623	42,898	564,591
2006	28,625	0	60,893	43,877	576,200
2007	29,847	0	64,557	44,708	586,198
2008	31,182	0	68,220	45,414	594,574
2009	32,468	0	72,967	45,946	600,021
2010	33,736	0	78,418	46,214	601,553
2011	35,332	0	82,081	46,254	601,058
2012	37,102	0	85,861	46,134	598,433
2013	39,185	0	89,231	45,873	594,260

TABLE 13

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

Interest:	Pre-Retirement: 8% per annum
	Post-Retirement: 8% 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:
	Male - 1983 GAM
	Female - 1983 GAM set forward 1 year
	Post-Retirement:
	Male - Same as above
	Female - Same as above
	Post-Disability:
	Male - 1983 GAM set forward 10 years
	Female - 1983 GAM set forward 11 years
Retirement Age:	Greater of age 62 and one year from valuation date or earliest date eligible for unreduced benefit.
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. (0.53% 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.
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

TABLE 13
(cont)

Special Consideration:	Annual bonus payment totaling 1% of the year end assets is accounted for by using a 7% post and pre-retirement interest rate.
Actuarial Cost Method:	Entry Age Normal 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	2	600	1,000	7	7	0	0
21	4	2	600	1,000	7	7	0	0
22	4	2	600	1,000	7	7	0	0
23	4	2	600	1,000	7	7	0	0
24	4	3	600	1,000	7	7	0	0
25	5	3	600	1,000	8	8	0	0
26	5	3	600	1,000	8	8	0	0
27	5	3	600	1,000	8	8	0	0
28	5	3	600	1,000	8	8	0	0
29	6	3	600	1,000	8	8	0	0
30	6	4	600	1,000	8	8	0	0
31	6	4	570	1,000	9	9	0	0
32	7	4	540	1,000	9	9	0	0
33	7	4	510	1,000	9	9	0	0
34	8	5	480	1,000	9	9	0	0
35	9	5	450	1,000	10	10	0	0
36	9	5	430	960	10	10	0	0
37	10	6	410	920	10	10	0	0
38	10	6	390	880	11	11	0	0
39	11	7	370	840	11	11	0	0
40	12	7	350	800	12	12	0	0
41	14	8	340	720	12	12	0	0
42	15	8	330	640	13	13	0	0
43	17	9	320	560	14	14	0	0
44	19	10	310	530	15	15	0	0
45	22	11	300	500	16	16	0	0
46	25	12	280	460	18	18	0	0
47	28	14	260	420	19	19	0	0
48	31	15	240	380	21	21	0	0
49	35	16	220	340	22	22	0	0
50	39	18	200	300	24	24	0	0
51	43	19	180	260	26	26	0	0
52	48	21	160	220	29	29	0	0
53	52	23	140	180	32	32	0	0
54	57	25	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	61	28	100	100	40	40	0	0
56	66	31	80	80	46	46	0	0
57	71	34	60	60	53	53	0	0
58	77	38	40	40	61	61	0	0
59	84	42	20	20	72	72	0	0
60	92	47	0	0	84	84	0	0
61	101	52	0	0	98	98	0	0
62	111	58	0	0	113	113	10,000	10,000
63	124	64	0	0	131	131	0	0
64	139	71	0	0	149	149	0	0
65	156	78	0	0	0	0	0	0
66	176	87	0	0	0	0	0	0
67	198	97	0	0	0	0	0	0
68	222	109	0	0	0	0	0	0
69	248	124	0	0	0	0	0	0
70	275	141	0	0	0	0	0	0

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 3A
BASIC

ACTIVE MEMBERS AS OF JUNE 30, 1988

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			2	16					18
35-39			16	85	68				169
40-44			5	68	222	57			352
45-49			3	38	113	104	32		290
50-54			3	27	77	89	82	24	302
55-59		1	1	10	46	46	48	72	224
60-64			1	6	17	17	8	24	73
65+				1	2	3	4	5	15
TOTAL	0	1	31	251	545	316	174	125	1,443

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			19,803	26,189					25,479
35-39			20,067	33,229	38,538				34,119
40-44			25,460	36,353	38,493	39,355			38,034
45-49			34,638	37,672	40,271	41,305	43,757		40,628
50-54			30,129	37,199	40,146	41,001	41,457	46,382	40,887
55-59		36,479	16,219	36,994	40,130	39,673	40,271	44,974	41,361
60-64			23,924	35,184	40,265	39,616	44,386	43,858	41,105
65+				34,876	38,618	37,114	36,492	38,397	37,427
ALL	0	36,479	23,304	34,930	39,295	40,500	41,574	44,767	39,203

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	36	722	8,767	21,416	12,798	7,234	5,596	56,569

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 4A
BASIC

SERVICE RETIREMENTS AS OF JUNE 30, 1988

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	9	75						84
60-64	21	138	56					215
65-69	5	70	108	10				193
70-74	1	13	63	64	4			145
75-79			3	121	17	1		142
80-84				26	69	25	3	123
85+					37	44	60	141
TOTAL	36	296	230	221	127	70	63	1,043

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	8,123	17,535						16,526
60-64	22,849	16,231	11,638					15,681
65-69	20,663	15,380	15,074	9,757				15,054
70-74	14,450	16,792	11,548	10,266	4,683			11,283
75-79			8,994	8,374	6,234	2,886		8,092
80-84				10,115	6,805	4,636	2,425	6,957
85+					5,595	4,841	3,486	4,462
ALL	18,631	16,385	13,192	9,189	6,309	4,740	3,436	11,443

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
671	4,850	3,034	2,031	801	332	216	11,935

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 5A
BASIC

DISABILITY RETIREMENTS AS OF JUNE 30, 1988

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		1		1				2
50-54		1		1				2
55-59	2		3	1				6
60-64		2	2	2				6
65-69			5	2				7
70-74				2	1			3
75-79					1	1		2
80-84								0
85+					1		1	2
TOTAL	2	4	10	9	3	1	1	30

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		16,405		9,709				13,057
50-54		23,940		14,929				19,435
55-59	22,262		15,050	13,548				17,203
60-64		28,062	23,031	11,535				20,876
65-69			18,534	20,812				19,185
70-74				11,771	6,228			9,923
75-79					4,188	4,400		4,294
80-84								0
85+					3,482		2,117	2,800
TOTAL	22,262	24,117	18,388	14,047	4,633	4,400	2,117	15,724

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
45	96	185	126	14	4	2	472

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 6A
BASIC

SURVIVORS AS OF JUNE 30, 1988

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	4	1	4	2	1			12
50-54	2	2	2	1				7
55-59	1	1	2					4
60-64		5	4	3	1			13
65-69	2	14	4	4				24
70-74		4	9	1	1			15
75-79	1	5	5	1	3	1		16
80-84	1	6	4	4	2		1	18
85+		2	1		1	1	2	7
TOTAL	11	40	35	16	9	2	3	116

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	12,725	7,333	5,280	4,182	3,350			7,589
50-54	13,950	6,275	9,225	4,291				9,027
55-59	7,046	18,318	6,661					9,671
60-64		14,442	7,365	5,671	2,520			9,323
65-69	6,735	7,216	8,623	5,898				7,191
70-74		6,250	8,420	1,596	3,945			7,088
75-79	3,092	5,398	7,726	8,568	3,494	2,259		5,626
80-84	4,077	3,927	4,028	5,626	2,552		1,441	4,044
85+		3,018	3,524		4,734	3,769	2,165	3,199
ALL	9,680	7,326	7,168	5,370	3,348	3,014	1,924	6,709

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	106	293	251	86	30	6	6	778

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

TABLE 11A
BASIC

JULY 1, 1988

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	8.00%	\$4,820
2. Employer Contributions	12.63%	7,609
3. Total	----- 20.63% =====	----- \$12,429 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356 (NORMAL COST ONLY)		
1. Normal Cost		
a. Retirement Benefits	8.63%	\$5,195
b. Disability Benefits	1.33%	803
c. Survivors	0.81%	486
d. Deferred Retirement Benefits	1.42%	856
e. Refunds Due to Death or Withdrawal	1.27%	768
f. Total	----- 13.46% -----	----- \$8,108 -----

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1988 is \$60,246

ST. PAUL TEACHERS' RETIREMENT FUND**TABLE 14A
BASIC****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. <u>(Amended 1988)</u> Age 60 and 25 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.
Amount	2% of Average Salary for each year of Allowable Service not to exceed 40 years.
Early Retirement Benefit	
Eligibility	Age 55 and 5 years of Allowable Service. <u>(Amended 1988)</u>
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date. If the Member has at least 25 years of service, the benefit is reduced 0.5% for each month the Member is under age 60. Otherwise the reduction is 0.5% for each of the first 60 months the Member is under age 65 and 0.25% for each month the Member is under age 60.

TABLE 14A
BASIC
(cont)

Form of Payment	Life annuity.
Benefit Increases	If the investment income of the fund was as 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.
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.
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	Same as for retirement.
Benefit Increases	Same as for retirement.
DEATH	
Family Benefits Eligibility	Active Member with 3 years of St. Paul service.

TABLE 14A
BASIC
(cont)

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.
Survivor's Benefits Eligibility	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).
Amount	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. <u>(Amended 1988)</u>
Benefit Increases	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.
Refund of Contributions Eligibility	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.
Amount	Death of a Member or former Member when Family Benefits and Survivor's Benefits are not payable.
Amount	The excess of the Member's contributions with 5% interest (unless the Member was disabled) over total benefits paid.
TERMINATION	
Refund of Contributions Eligibility	Termination of teaching service.
Amount	Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund.
Deferred Annuity Eligibility	5 years of Allowable Service. <u>(Amended 1988)</u>
Amount	Benefit computed under law in effect at termination and increased by the following annual percentage: 5% before 1/1/81 and 3% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 3B
COORDINATED

ACTIVE MEMBERS AS OF JUNE 30, 1988

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	99	24							123
25-29	146	156	8						310
30-34	88	134	105	7					334
35-39	81	113	96	30	3				323
40-44	98	114	66	17	14	2			311
45-49	53	63	53	18	8	5	1		201
50-54	24	37	33	15	5	1	1		116
55-59	19	23	11	11	2	1	1		68
60-64	16	4	5	6	2	1			34
65+	10	2	4	1					17
TOTAL	634	670	381	105	34	10	3	0	1,837

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	3,321	21,507							6,870
25-29	3,006	21,937	24,409						13,085
30-34	4,155	21,714	24,358	26,871					18,027
35-39	5,401	22,129	28,660	33,683	38,170				21,097
40-44	3,361	23,420	30,775	33,049	38,535	38,898			19,966
45-49	3,709	21,659	31,681	37,065	42,222	35,109	39,947		22,192
50-54	4,083	19,590	28,974	33,821	38,385	31,803	37,995		21,966
55-59	1,522	19,403	33,105	31,539	40,843	39,001	37,346		19,769
60-64	7,022	15,734	17,583	26,132	40,689	57,684			16,443
65+	967	12,325	16,372	40,318					8,243
ALL	3,700	21,853	28,053	33,133	39,610	38,183	38,429	0	17,963

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
2,346	14,641	10,688	3,479	1,347	382	115	0	32,998

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 4B
COORDINATED

SERVICE RETIREMENTS AS OF JUNE 30, 1988

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	2	1						3
60-64	2	3	1					6
65-69		3	2					5
70-74			7					7
75-79								0
80-84								0
85+								0
TOTAL	4	7	10	0	0	0	0	21

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	1,475	4,727						2,559
60-64	7,135	4,115	4,766					5,230
65-69		1,423	9,822					4,783
70-74			2,865					2,865
75-79								0
80-84								0
85+								0
ALL	4,305	3,049	4,446	0	0	0	0	3,954

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
17	21	45	0	0	0	0	83

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

TABLE 11B
COORDINATED

JULY 1, 1988

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	4.50%	\$1,581
2. Employer Contributions	4.50%	1,581
3. Total	----- 9.00% =====	----- \$3,162 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356 (NORMAL COST ONLY)		
1. Normal Cost		
a. Retirement Benefits	5.84%	\$2,053
b. Disability Benefits	0.39%	138
c. Survivors	0.10%	36
d. Deferred Retirement Benefits	0.68%	238
e. Refunds Due to Death or Withdrawal	0.74%	259
f. Total	----- 7.75% -----	----- \$2,724 -----

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1988 is \$35,143

ST. PAUL TEACHERS' RETIREMENT FUND**TABLE 14B
COORDINATED****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.
RETIREMENT	
Normal Retirement Benefit	
Eligibility	Age 65 and 5 years of Allowable Service. Age 62 and 30 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.
Amount	1% of Average Salary for the first 10 years of Allowable Service and 1.5% of Average Salary for each subsequent year. If a Coordinated Member has Allowable Service prior to July 1, 1978, the Basic program retirement annuity formula is applied to the pre 7/1/78 Allowable Service and the Coordinated program retirement annuity formula is applied to the post 7/1/78 service.
Early Retirement Benefit	
Eligibility	Age 55 and 5 years of Allowable Service. Any age with 30 years of Allowable Service.

TABLE 14B
COORDINATED
(cont)

Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction for benefits commencing prior to the normal retirement age 65(age 62 if 30 years of Allowable Service). The monthly reduction factor is 0.50% from normal retirement to age 60 and 0.25% from age 60 to the date benefits begin.
Form of Payment	Life annuity. Actuarially equivalent options are: Guaranteed refund 15 year certain and life 50% or 100% bounce back joint and survivor (option is cancelled if Member is pre-deceased by beneficiary).
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.
DISABILITY	
Disability Benefit Eligibility	Total and permanent disability before age 65 with 5 years of Allowable Service. Also the last 5 years must have been uninterrupted.
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before age 65. Benefit is reduced by Workers' Compensation. Payments are recomputed as a retirement at age 65. 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	Age 65 with continued disability.

**TABLE 14B
COORDINATED
(cont)**

Amount	Any optional annuity continues. Otherwise the larger of the disability benefit paid before age 65 or the normal retirement benefit available at age 65, 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 5 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.
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.
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.
TERMINATION	
Refund of Contributions Eligibility	Termination of teaching service.
Amount	Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund.
Deferred Annuity Eligibility	5 years of Allowable Service.
Amount	Benefit computed under law in effect at termination and increased by the following annual percentages: 5% before 1/1/81 and 3% thereafter until the annuity begins. Amount is payable as a normal or early retirement.