

ST. PAUL TEACHERS' RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1987

THE *Wyatt* COMPANY

ACTUARIES AND CONSULTANTS

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December 11, 1987

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, 1987 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 26, 1987.

Respectfully submitted,

THE WYATT COMPANY

Robert E. Perkins

Robert E. Perkins, FSA
Consulting Actuary

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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)

	07/01/86 <u>VALUATION</u>	07/01/87 <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Statutory Contributions - Chapter 354A % of Payroll	17.18%	16.74%
2. Required Contributions - Chapter 356 % of Payroll	20.77%	20.39%
3. Sufficiency (Deficiency) (A1-A2)	-3.59%	-3.65%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$193,015	\$227,563
b. Current Benefit Obligations (Table 8)	\$308,532	\$340,641
c. Funding Ratio (a/b)	62.56%	66.80%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$193,015	\$227,563
b. Actuarial Accrued Liability (Table 9)	\$337,777	\$371,278
c. Funding Ratio (a/b)	57.14%	61.29%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$382,493	\$419,349
b. Current and Expected Future Benefit Obligations	\$440,367	\$482,017
c. Funding Ratio (a/b)	86.86%	87.00%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	3,105	3,264
b. Projected Annual Earnings	\$84,932	\$90,392
c. Average Annual Earnings (Actual \$)	\$27,353	\$27,694
d. Average Age	42.7	42.6
e. Average Service	11.1	10.6
f. Additional Members on Leave of Absence	106	99
2. Others		
a. Service Retirements (Table 4)	991	1,050
b. Disability Retirements (Table 5)	34	31
c. Survivors (Table 6)	112	110
d. Deferred Retirements (Table 7)	30	39
e. Terminated Other Non-vested (Table 7)	1,852	1,955
f. Total	3,019	3,185

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 1987 by an amount of 3.65% of payroll. According to this valuation a contribution rate of 20.39% 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 66.80%. The corresponding ratio for the prior year was 62.56%.
- 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 1987 the ratio is 61.29%, which is an

increase from the 1986 value of 57.14%.

- 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

Beginning in 1984, changes in Section 356.215 of Minnesota Statutes require that the asset value used for actuarial purposes reflect a portion of the unrealized gains and losses. Only a portion of these gains and losses are considered because market values are typically volatile and could produce erratic changes in the contribution requirements from year to year.

The calculation of assets for actuarial purposes begins with the reporting of Total Assets by the Fund (Table 1, line B). These Total Assets, reduced by any Amounts Currently Payable (line C), produce the Assets Available for Benefits (line D5), which is the starting value for determining the Actuarial Value of Assets.

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

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 through 6 summarize statistical information on 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.

The service retirements are shown in Table 4 and disabled members are shown in Table 5. Nine retirees receiving disability benefits were categorized as disabilities rather than service retirees in this year's valuation. 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

An actuarial balance sheet is required by Section 356.215, Subdivision 4f of Minnesota Law. This balance sheet (Table 8) establishes a method for evaluating both 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. The difference between the obligations and the assets is shown as Current Unfunded Actuarial Liability on line G.

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of 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 first step in the calculation for active members involves projecting salaries and service to determine future benefits payable under the plan and then discounting those projected benefits to the date of the valuation. The second step is to determine the discounted value of benefits for the non-active members. For those non-active members whose benefits have not commenced, the liability includes augmentation of benefits to date of commencement. The result of the first two steps is shown on line F, Total Current and Expected Future Benefit Obligations.

The third step is to determine the portion that represents Current Benefit Obligations. In the case of active members the Current Benefit Obligation is computed by attributing an equal benefit amount to each year of credited and expected future employee service. For all others, their entire liability is considered a Current Benefit Obligation.

Current and future funding levels are evaluated by comparing Current and Future Expected Assets on line C to Current and Expected Future Benefit Obligations on line F. The difference between the obligations and the assets is shown as the Current and Future Unfunded Actuarial Liability on line H.

Since line F has already been calculated, the remaining step is to determine the Expected Future Assets. The statutory contribution rate in excess of the combined normal cost rate and expense rate is first calculated. The amount of assets for line B1 can be determined by projecting from the valuation date to the amortization date (the date for paying off all unfunded liabilities) on the assumption that total payroll is increasing at 6.5% annually and then discounted to the date of the valuation.

The Current Unfunded Actuarial Liability, line G, is a measurement of the status of the funding to the date of the valuation. The Current and Future Unfunded Actuarial Liability is a measurement of the adequacy of the current statutory contribution level.

GASB Disclosure

Table 8 shows that on July 1, 1987, the Pension Benefit Obligation consisted of the following components:

Retirees and beneficiaries currently receiving benefits	
and terminated employees not yet receiving benefits	\$122,999,000
Current Employees -	
Accumulated employee contributions	
including allocated investment income	75,003,000 *
Employer-financed vested	114,499,000
Employer-financed nonvested	<u>28,140,000</u>
Total Pension Benefit Obligation	\$340,641,000

* Estimated

Contribution Sufficiency

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) shows similarities and differences. The similarity is that both approaches calculate the value of all future benefits the same way. This can be verified by comparing line F of Table 8 to line A6, column 1, of Table 9. The difference arises from the technique 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.

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. Prior to 1984 these payments were calculated to be a level dollar amount similar to a fixed interest rate mortgage. The method of funding was changed in 1984 to produce a series of payments that remain a constant percentage of payroll each year.

Under this new approach the payments will increase 6.5% each year since 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 actuarial liability. After a few years the annual payment will cover the interest and also repay a portion of the unfunded.

Projected Cash Flow

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%. For purposes of this table only, 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. The assumed bonus payment of 1% has been taken out of year end assets and added to the disbursements in the following year.

Plan Provisions

Vesting eligibility for Coordinated 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, the Disability Benefit, the Death Benefit and the Surviving Spouse Optional Annuity. Coincident with this eligibility change, a different calculation technique was adopted which assumes that the terminating vested member takes the larger of contributions with interest or a deferred annuity. Previously, the technique assumed return of contributions was selected by the terminating vested member.

	<u>Impact Due to Change In</u>	
	<u>Technique</u>	<u>Eligibility</u>
Actuarial Accrued Liability	\$6,272,000	\$ (30,000)
Normal Cost	.37%	.06%
Supplemental Contribution	<u>.06</u>	<u>.00</u>
Required Contribution	.43%	.06%

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, 1987

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$15,615	\$15,615
2. Investments		
a. Fixed Income	79,571	73,298
b. Equity	163,849	117,528
c. Real Estate	729	729
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
4. Other	3,361	3,361
B. TOTAL ASSETS	----- \$263,125 =====	----- \$210,531 =====
C. AMOUNTS CURRENTLY PAYABLE	\$499	\$499
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$51,648	\$51,648
2. Employer Reserves	210,978	158,384
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	0	0
5. Total Assets Available for Benefits	----- \$262,626 -----	----- \$210,032 -----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	----- \$263,125 =====	----- \$210,531 =====

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		\$210,032
2. Market Value (D5)	\$262,626	
3. Cost Value (D5)	210,032	
4. Market Over Cost (F2-F3)	----- \$52,594	
5. 1/3 of Market Over Cost(F4)/3		17,531
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		----- \$227,563 =====

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 2

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

YEAR ENDING JUNE 30, 1987

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF YEAR	\$237,187	\$170,930
B. OPERATING REVENUES		
1. Member Contributions	\$6,164	\$6,164
2. Employer Contributions	8,479	8,479
3. Investment Income	12,751	12,751
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	24,960	24,960
6. Other	0	0
7. Net Change in Unrealized Gain (Loss)	(13,663)	0
	-----	-----
8. Total Revenue	\$38,691	\$52,354
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$11,336	\$11,336
2. Disability Benefits	463	463
3. Survivor Benefits	680	680
4. Refunds	361	361
5. Expenses	412	412
6. Other	0	0
	-----	-----
7. Total Disbursements	\$13,252	\$13,252
	-----	-----
D. CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF YEAR	\$262,626	\$210,032
	=====	=====

TABLE 3

ST. PAUL TEACHERS' RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1987

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	60	34							94
25-29	132	129	17						278
30-34	94	122	134	16					366
35-39	80	119	125	115	112				551
40-44	174	99	76	84	229	54			716
45-49	36	54	59	49	113	101	40		452
50-54	24	36	39	42	86	68	76	28	399
55-59	18	19	18	21	49	38	41	60	264
60-64	18	5	16	6	16	20	9	25	115
65+	7	3	2		1	5	6	5	29
TOTAL	643	620	486	333	606	286	172	118	3,264

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	2,937	19,895							9,070
25-29	3,275	20,713	21,065						12,455
30-34	3,641	19,302	23,153	27,598					17,052
35-39	5,093	19,842	25,903	32,076	36,096				24,933
40-44	1,958	21,063	30,271	33,852	37,827	38,497			25,574
45-49	3,725	21,089	31,268	39,058	39,107	40,171	39,788		33,406
50-54	2,182	17,112	28,916	35,776	38,204	40,536	40,547	42,676	34,128
55-59	1,174	22,787	31,303	32,130	37,977	39,500	39,066	45,897	35,643
60-64	2,155	7,243	23,304	29,562	38,439	37,293	42,053	44,204	30,171
65+	1,344	7,477	2,276		39,229	36,560	34,051	42,277	23,245
ALL	3,040	19,994	26,569	33,761	37,830	39,588	39,869	44,621	26,003

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
1,955	12,396	12,912	11,242	22,925	11,322	6,858	5,265	84,875

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 4

SERVICE RETIREMENTS AS OF JUNE 30, 1987

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	48	49	1					98
60-64	31	120	42					193
65-69	11	77	97	5				190
70-74	1	14	75	68	2			160
75-79			1	107	25	3		136
80-84				31	77	23	6	137
85+					23	42	71	136
TOTAL	91	260	216	211	127	68	77	1,050

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	18,423	13,817	17,019					16,106
60-64	16,234	16,826	9,865					15,216
65-69	17,827	14,083	13,929	9,249				14,094
70-74	14,757	14,385	9,848	9,611	5,160			10,116
75-79			1,936	8,253	5,927	3,327		7,670
80-84				8,902	6,192	4,596	2,601	6,380
85+					5,084	4,576	3,539	4,121
ALL	17,565	15,315	11,681	8,810	5,923	4,528	3,466	10,752

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
1,598	3,982	2,523	1,859	752	308	267	11,289

TABLE 5

ST. PAUL TEACHERS' RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1987

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		1		1				2
50-54		2		1				3
55-59		2	1	3				6
60-64		2	1					3
65-69		3	4	2				9
70-74			1	1	1			3
75-79				1	1			2
80-84							1	1
85+					1		1	2
TOTAL	0	10	7	9	3	0	2	31

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		23,007		14,929				20,314
55-59		23,840	5,375	12,206				14,945
60-64		28,062	17,030					24,385
65-69		17,485	20,947	12,332				17,879
70-74			12,951	10,590	6,228			9,923
75-79				4,188	4,400			4,294
80-84							2,387	2,387
85+					3,482		2,117	2,800
TOTAL	0	21,868	17,021	11,189	4,703	0	2,252	14,746

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	218	119	101	14	0	5	457

TABLE 6

ST. PAUL TEACHERS' RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1987

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1	2	5	1	1			10
50-54		2	1	1				4
55-59		3	2	1				6
60-64	2	4	4	1	1			12
65-69	3	11	5	4	1			24
70-74	2	2	8					12
75-79		10	2	1	4			17
80-84	1	7	5	3	2		1	19
85+		2		2	2			6
TOTAL	9	43	32	14	11	0	1	110

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	7,333	6,000	6,169	4,100	3,350			5,763
50-54		6,275	6,985	4,291				5,956
55-59		19,301	6,661	3,477				12,450
60-64	14,471	9,118	7,550	7,076	2,520			8,767
65-69	8,168	5,660	6,423	5,898	3,945			6,101
70-74	9,904	2,596	8,905					8,020
75-79		5,670	8,664	4,656	2,482			5,213
80-84	4,848	5,128	5,597	3,543	2,552		1,441	4,521
85+		3,018		2,165	4,252			3,145
ALL	9,493	6,628	7,188	4,439	3,032	0	1,441	6,340

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
85	286	230	62	33	0	1	697

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, 1986	3,211	30	1,852
B. Additions	532	10	175
C. Deletions:			
1. Service Retirement	(88)	(4)	
2. Disability	(1)		
3. Death	(2)	0	0
4. Terminated-Deferred	(10)		
5. Terminated-Refund	(105)	(4)	(32)
6. Terminated-Other Non-vested	(175)		
7. Returned as Active		0	(42)
D. Data Adjustments	1	7	2
	Vested		
	Non-Vested		
	1,961		
	1,402		
E. Total on June 30, 1987	3,363	39	1,955

	<u>RETIREMENT ANNUITANTS</u>	<u>RECIPIENTS</u>	
		<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1986	991	34	112
B. Additions	106	1	10
C. Deletions:			
1. Service Retirement		0	
2. Death	(43)	(4)	(8)
3. Annuity Expired	0	0	(4)
4. Returned as Active	0	0	
D. Data Adjustments	(4)	0	0
E. Total on June 30, 1987	1,050	31	110

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 8

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1987

A. CURRENT ASSETS (TABLE 1, F6)				\$227,563
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions				81,047
2. Present Value of Future Normal Costs				110,739
3. Total Expected Future Assets				191,786
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$419,349
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>	
1. Benefit Recipients				
a. Retirement Annuities		\$110,848	\$110,848	
b. Disability Benefits		3,664	3,664	
c. Surviving Spouse and Child Benefits		6,124	6,124	
2. Deferred Retirements with Future Augmentation		1,742	1,742	
3. Former Members without Vested Rights		621	621	
4. Active Members				
a. Retirement Annuities	2,994	168,471	171,465	
b. Disability Benefits	14,782	0	14,782	
c. Survivors' Benefits	9,872	0	9,872	
d. Deferred Retirements	492	17,516	18,008	
e. Refund Liability Due to Death or Withdrawal	0	3,515	3,515	
5. Total Current Benefit Obligations	\$28,140	\$312,501	\$340,641	
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$141,376
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$482,017
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				\$113,078
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				\$62,668

TABLE 9

ST. PAUL TEACHERS' RETIREMENT FUND

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

JULY 1, 1987

	ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (1)	ACTUARIAL PRESENT VALUE OF FUTURE NORMAL COSTS (2)	ACTUARIAL ACCRUED LIABILITY (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$292,070	\$73,728	\$218,342
b. Disability Benefits	21,992	9,544	12,448
c. Survivors Benefits	14,063	5,332	8,731
d. Deferred Retirements	25,288	11,274	14,014
e. Refunds Due to Death or Withdrawal	5,605	10,861	(5,256)
f. Total	<u>\$359,018</u>	<u>\$110,739</u>	<u>\$248,279</u>
2. Deferred Retirements with Future Augmentation	\$1,742		\$1,742
3. Former Members Without Vested Rights	621		621
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	120,636		120,636
6. Total AAL	<u>\$482,017</u>	<u>\$110,739</u>	<u>\$371,278</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$371,278
2. Current Assets (Table 1,F6)			227,563
3. UAAL (B1-B2)			<u>\$143,715</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls through the Amortization Date of July 1, 2010			\$1,717,102
2. Supplemental Contribution Rate (B3/C1)			8.37%

ST. PAUL TEACHERS' RETIREMENT FUND
CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

TABLE 10

YEAR ENDING JUNE 30, 1987

A. UAAL AT BEGINNING OF YEAR	\$144,762
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$10,451
2. Contribution	(14,643)
3. Interest on A, B1, and B2	11,413

4. Total (B1+B2+B3)	\$7,221

C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$151,983
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$3,568)
2. Investment Return	(17,660)
3. MPRIF Mortality	0
4. Mortality of Other Benefit Recipients	(2,810)
5. Other Items	9,528

6. Total	(\$14,510)

E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D6)	\$137,473
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	(\$30)
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	\$6,272
H. UAAL AT END OF YEAR (E+F+G)	----- \$143,715 =====

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

TABLE 11

JULY 1, 1987

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	6.83%	\$6,173
2. Employer Contributions	9.91%	8,958
3. Total	----- 16.74% =====	----- \$15,131 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.74%	\$6,996
b. Disability Benefits	1.02%	924
c. Survivors	0.58%	523
d. Deferred Retirement Benefits	1.14%	1,026
e. Refunds Due to Death or Withdrawal	1.08%	978
f. Total	----- 11.56% -----	----- \$10,447 -----
2. Supplemental Contribution Amortization by July 1, 2010 of UAAL of \$143,715	8.37%	\$7,566
3. Allowance for Expenses	0.46%	\$416
4. Total	----- 20.39%	----- \$18,429
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)	-3.65%	(\$3,298)

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1987 is \$90,392

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 12

PROJECTED CASH FLOW
JULY 1, 1987

<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>
1987					\$227,563
1988	\$15,131	\$0	\$15,732	\$18,181	245,143
1989	15,552	0	17,213	19,545	263,027
1990	16,150	0	18,083	20,965	282,059
1991	16,786	0	19,023	22,475	302,297
1992	17,393	0	20,452	24,061	323,299
1993	18,052	0	21,996	25,706	345,061
1994	18,708	0	23,753	27,403	367,419
1995	19,295	0	26,190	29,118	389,642
1996	19,931	0	28,598	30,825	411,800
1997	20,676	0	30,767	32,540	434,249
1998	21,419	0	33,274	34,266	456,660
1999	22,070	0	36,486	35,956	478,200
2000	22,777	0	39,875	37,572	498,674
2001	23,541	0	43,393	39,100	517,922
2002	24,520	0	46,438	40,557	536,561
2003	25,533	0	49,707	41,958	554,345
2004	26,621	0	53,012	43,292	571,246
2005	27,631	0	57,210	44,517	586,184
2006	28,721	0	61,284	45,592	599,213
2007	29,945	0	65,008	46,535	610,685
2008	31,290	0	68,564	47,364	620,775
2009	32,610	0	73,069	48,044	628,360
2010	33,934	0	78,127	48,501	632,668
2011	35,564	0	81,573	48,773	635,432
2012	37,397	0	85,743	48,901	635,987

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. (0.46% of payroll)
Return of Contributions:	All employees withdrawing for reasons other than retirement, disability or death were assumed to receive a refund of their employee contributions. Effective July 1, 1987, 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

TABLE 13
(cont)

Benefit Increases After Retirement:	NA
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	11	11	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	97	97	0	0
62	111	58	0	0	113	113	10,000	10,000
63	124	64	0	0	130	130	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, 1987

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			16	14					30
35-39			34	100	105				239
40-44			8	74	216	53			351
45-49			10	40	108	97	39		294
50-54			7	37	82	66	76	28	296
55-59		1	3	13	46	38	40	60	201
60-64			4	5	13	20	9	25	76
65+					1	5	6	5	17
TOTAL	0	1	82	283	571	279	170	118	1,504

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			21,170	27,692					24,214
35-39			22,956	31,975	36,142				32,523
40-44			31,020	34,339	37,722	38,621			36,992
45-49			32,855	39,623	39,122	40,287	39,863		39,459
50-54			24,397	36,134	38,445	40,715	40,547	42,676	39,270
55-59		35,133	30,935	35,878	37,947	39,500	39,140	45,897	40,599
60-64			28,338	29,634	36,892	37,293	42,053	44,204	39,086
65+					39,229	36,560	34,051	42,277	37,513
ALL	0	35,133	25,279	34,144	37,802	39,683	39,909	44,621	37,551

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	35	2,073	9,663	21,584	11,072	6,785	5,265	56,477

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 4A
BASIC

SERVICE RETIREMENTS AS OF JUNE 30, 1987

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	48	48	1					97
60-64	30	118	41					189
65-69	9	74	95	5				183
70-74	1	14	70	68	2			155
75-79			1	107	25	3		136
80-84				31	77	23	6	137
85+					23	42	71	136
TOTAL	88	254	208	211	127	68	77	1,033

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	18,423	14,006	17,019					16,223
60-64	16,434	17,094	9,989					15,448
65-69	21,381	14,575	14,016	9,249				14,474
70-74	14,757	14,385	10,340	9,611	5,160			10,348
75-79			1,936	8,253	5,927	3,327		7,670
80-84				8,902	6,192	4,596	2,601	6,380
85+					5,084	4,576	3,539	4,121
ALL	18,006	15,627	11,942	8,810	5,923	4,528	3,466	10,865

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	1,584	3,970	2,484	1,859	752	308	267	11,224

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 5A
BASIC

DISABILITY RETIREMENTS AS OF JUNE 30, 1987

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		1		1				2
50-54		2		1				3
55-59		2	1	3				6
60-64		2	1					3
65-69		3	4	2				9
70-74			1	1	1			3
75-79				1	1			2
80-84							1	1
85+					1		1	2
TOTAL	0	10	7	9	3	0	2	31

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		23,007		14,929				20,314
55-59		23,840	5,375	12,206				14,945
60-64		28,062	17,030					24,385
65-69		17,485	20,947	12,332				17,879
70-74			12,951	10,590	6,228			9,923
75-79				4,188	4,400			4,294
80-84							2,387	2,387
85+					3,482		2,117	2,800
TOTAL	0	21,868	17,021	11,189	4,703	0	2,252	14,746

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	218	119	101	14	0	5	457

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 6A
BASIC

SURVIVORS AS OF JUNE 30, 1987

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1	2	5	1	1			10
50-54		2	1	1				4
55-59		3	2	1				6
60-64	2	4	4	1	1			12
65-69	3	11	5	4	1			24
70-74	2	2	8					12
75-79		10	2	1	4			17
80-84	1	7	5	3	2		1	19
85+		2		2	2			6
TOTAL	9	43	32	14	11	0	1	110

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	7,333	6,000	6,169	4,100	3,350			5,763
50-54		6,275	6,985	4,291				5,956
55-59		19,301	6,661	3,477				12,450
60-64	14,471	9,118	7,550	7,076	2,520			8,767
65-69	8,168	5,660	6,423	5,898	3,945			6,101
70-74	9,904	2,596	8,905					8,020
75-79		5,670	8,664	4,656	2,482			5,213
80-84	4,848	5,128	5,597	3,543	2,552		1,441	4,521
85+		3,018		2,165	4,252			3,145
ALL	9,493	6,628	7,188	4,439	3,032	0	1,441	6,340

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
85	286	230	62	33	0	1	697

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

TABLE 11A
BASIC

JULY 1, 1987

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	8.00%	\$4,812
2. Employer Contributions	12.63%	7,597
3. Total	----- 20.63% =====	----- \$12,409 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356 (NORMAL COST ONLY)		
1. Normal Cost		
a. Retirement Benefits	8.69%	\$5,232
b. Disability Benefits	1.34%	805
c. Survivors	0.82%	492
d. Deferred Retirement Benefits	1.36%	816
e. Refunds Due to Death or Withdrawal	1.26%	756
f. Total	----- 13.47% -----	----- \$8,101 -----

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1987 is \$60,148

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 10 years of Allowable Service. Age 60 and 25 years 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 10 years of Allowable Service.
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 10 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.
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	10 years of Allowable Service.
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, 1987

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	60	34							94
25-29	132	129	17						278
30-34	94	122	118	2					336
35-39	80	119	91	15	7				312
40-44	174	99	68	10	13	1			365
45-49	36	54	49	9	5	4	1		158
50-54	24	36	32	5	4	2			103
55-59	18	18	15	8	3		1		63
60-64	18	5	12	1	3				39
65+	7	3	2						12
TOTAL	643	619	404	50	35	7	2	0	1,760

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	2,937	19,895							9,070
25-29	3,275	20,713	21,065						12,455
30-34	3,641	19,302	23,421	26,944					16,413
35-39	5,093	19,842	27,004	32,751	35,395				19,119
40-44	1,958	21,063	30,182	30,244	39,568	31,896			14,595
45-49	3,725	21,089	30,944	36,549	38,795	37,369	36,860		22,142
50-54	2,182	17,112	29,904	33,127	33,282	34,633			19,353
55-59	1,174	22,101	31,376	26,039	38,432		36,100		19,830
60-64	2,155	7,243	21,626	29,200	45,143				12,798
65+	1,344	7,477	2,276						3,033
ALL	3,040	19,969	26,830	31,593	38,285	35,805	36,480	0	16,135

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
1,955	12,360	10,839	1,580	1,340	251	73	0	28,398

ST. PAUL TEACHERS' RETIREMENT FUND

TABLE 4B
COORDINATED

SERVICE RETIREMENTS AS OF JUNE 30, 1987

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
60-64	1	2	1					4
65-69	2	3	2					7
70-74			5					5
75-79								0
80-84								0
85+								0
TOTAL	3	6	8	0	0	0	0	17

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		4,727						4,727
60-64	10,247	1,049	4,766					4,278
65-69	1,838	1,960	9,822					4,172
70-74			2,953					2,953
75-79								0
80-84								0
85+								0
ALL	4,641	2,118	4,897	0	0	0	0	3,871

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
14	13	39	0	0	0	0	66

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

TABLE 11B
COORDINATED

JULY 1, 1987

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	4.50%	\$1,361
2. Employer Contributions	4.50%	1,361
3. Total	----- 9.00% =====	----- \$2,722 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356 (NORMAL COST ONLY)		
1. Normal Cost		
a. Retirement Benefits	5.85%	\$1,764
b. Disability Benefits	0.39%	119
c. Survivors	0.10%	31
d. Deferred Retirement Benefits	0.69%	210
e. Refunds Due to Death or Withdrawal	0.73%	222
f. Total	----- 7.76% -----	----- \$2,346 -----

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1987 is \$30,244

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. <u>(Amended 1987)</u> Age 62 and 30 years 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.
Early Retirement Benefit	
Eligibility	Age 55 and 5 years of Allowable Service. <u>(Amended 1987)</u> Any age with 30 years of Allowable Service.
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.

TABLE 14B
COORDINATED
(cont)

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 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	Total and permanent disability before age 65 with 5 years of Allowable Service. Also the last 5 years must have been uninterrupted. . (Amended 1987)
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	None.
Retirement After Disability	
Eligibility	Age 65 with continued disability.
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.

TABLE 14B
COORDINATED
(cont)

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. (Amended 1987)

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. (Amended 1987)

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.