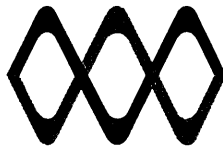


St. Paul Teachers' Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 1997



MILLIMAN & ROBERTSON, INC.

Actuaries & Consultants

Internationally WOODROW MILLIMAN

Suite 1850, 8500 Normandale Lake Boulevard, Minneapolis, Minnesota 55437-3830

Telephone: 612/897-5300

Fax: 612/897-5301

November 21, 1997

Legislative Commission on
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Re: *St. Paul Teachers' Retirement Fund*

Commission Members:

Pursuant the terms of our actuarial services contract, we have performed an actuarial valuation of the St. Paul Teachers' Retirement Fund as of July 1, 1997.

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

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

Respectfully submitted,

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

Lance M. Burma, F.S.A., M.A.A.A.
Consulting Actuary

Enclosure

St. Paul Teachers' Retirement Fund
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St. Paul Teachers' Retirement Fund

Report Highlights

(dollars in thousands)

	July 1, 1996 Valuation	July 1, 1997 Valuation
A. CONTRIBUTIONS % OF PAYROLL (Table 11)		
1. Statutory Contributions - Chapter 354A	15.91%	19.24%
2. Required Contributions - Chapter 356	16.97%	18.45%
3. Sufficiency / (Deficiency)	(1.06%)	0.79%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$ 494,931	\$ 556,406
b. Current Benefit Obligations (Table 8)	631,393	708,052
c. Funding Ratio	78.39%	78.58%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$ 494,931	\$ 556,406
b. Actuarial Accrued Liability (Table 9)	664,072	757,589
c. Funding Ratio	74.53%	73.44%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$ 773,005	\$ 877,947
b. Current and Expected Future Benefit Obligations	801,818	892,866
c. Funding Ratio	96.41%	98.33%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	3,805	3,842
b. Projected Annual Earnings	\$ 155,146	\$ 160,200
c. Average Annual Earnings (Actual dollars)	\$ 40,774	\$ 41,697
d. Average Age	43.8	43.4
e. Average Service	11.2	11.7
f. Additional Members on Leave of Absence *	129	179
2. Others		
a. Service Retirements (Table 4)	1,395	1,518
b. Disability Retirements (Table 5)	22	22
c. Survivors (Table 6)	178	180
d. Deferred Retirements (Table 7)	136	148
e. Terminated Other Non-Vested (Table 7)	1,011	783
f. Total	2,742	2,651

* Valued as deferred retirements, liability included with actives.

St. Paul Teachers' Retirement Fund

Commentary

Purpose

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

Report Highlights

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

The *Accrued Benefit Funding Ratio* is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 78.58%. The corresponding ratio for the prior year was 78.39%.

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 use by the State. For 1997 the ratio is 73.44%, which is a decrease from the 1996 value of 74.53%.

The *Projected Benefit Funding Ratio* is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 98.33% shows that the current statutory contributions are slightly insufficient in the long run.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only one 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 F.1 to F.6. 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 following table presents the components of Table 1, line A.4:

Other Assets
Table 1 Item A.4
(dollars in thousands)

	Market Value	Cost Value
Accounts Receivable		
Employer Contribution	\$ 946	\$ 946
Employee Contribution	122	122
State Amortization Aid	0	0
Interest	1,959	1,959
Dividends	376	376
Bond Sales	912	912
Net Gain on Bond Sales	7	7
Repaid Principal	0	0
Stock Sales	530	530
Net Gain on Stock Sales	0	0
Commission Recapture	1	1
Security Lending	10	10
Total Accounts Receivable	<u>\$4,863</u>	<u>\$4,863</u>
Fixed Assets	<u>15</u>	<u>15</u>
Total Other Assets	<u><u>\$4,878</u></u>	<u><u>\$4,878</u></u>

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding. The Current Benefit Obligation used to measure current funding level is calculated as follows:

For Active Members - salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.

For Non-active Members - the discounted value of benefits, including augmentation in cases where benefits have not commenced.

Actuarial Cost Method (Table 9)

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

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The

method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 5.0% each year because that is the assumed rate of increase in payroll (note: this was 6.5% for the prior plan year. See Actuarial Assumptions below). Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year, the actual experience will deviate from the long-term expectation. For an analysis of the major components of the Actuarial Gain or Loss refer to Table 10.

Contribution Sufficiency (Table 11)

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

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

Normal Costs based on the Entry Age Normal Actuarial Cost Method.

A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.

An Allowance for Expenses.

Table 11 shows the Fund has a current year contribution sufficiency since the Statutory Contribution Rate is 19.24% compared to the Required Contribution Rate of 18.45%. In absence of the \$2,000,000 extra State Supplementary Contribution appropriated for this year as part of the Pension Uniformity Package, the Fund would have a current year contribution *deficiency* of 0.46%

Changes in Actuarial Assumption

This valuation incorporates new actuarial assumptions for: salary growth, payroll growth, and rates of retirement, mortality, withdrawal, and disability, as recommended in Milliman & Robertson's February 4, 1997 Proposed Asset Valuation Method and Assumption Changes report. The new assumptions are based on the fund's actual experience and are designed to more realistically reflect current participant trends.

The effect of these assumption changes was to decrease the Fund's unfunded accrued liability.

All other actuarial assumptions are the same as those used in the prior valuation. Table 12 contains a summary of all actuarial assumptions and methods.

Changes in Plan Provisions

Various plan provisions became effective July 1, 1997 under the Pension Uniformity Act of 1997. Basic Plan benefits changed solely to incorporate the new post-retirement benefit increase methodology. Affected Coordinated Plan provisions include:

1. a change in the methodology used to determine post-retirement benefit increases,
2. an increase in the Employee Contribution Rate from 4.50% of pay to 5.50% of pay,
3. an increase in the Employer Contribution Rate from 8.14% of pay to 8.34% of pay,
4. an increase in the benefit multipliers of 0.20%, and
5. age 66 normal retirement age for all participants hired after 1989 and were born during 1938 or later.

Effective October 1, 1997 the State of Minnesota will provide direct state aid to the fund. The Supplemental Contribution provision under 1993 Legislature has been discontinued as a separate provision and is included in the direct state aid amounts.

The effect of these benefit improvements was to increase the Fund's unfunded accrued liability.

Tables 13A and 13B contain summaries of current plan benefits.

TABLE 1

St. Paul Teachers' Retirement Fund
Accounting Balance Sheet
(dollars in thousands)

July 1, 1997

	Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$ 31,694	\$ 31,694
2. Investments		
a. Fixed Income	210,216	210,433
b. Equity	406,697	270,497
c. Real Estate	-	-
3. Equity in Minnesota Post-Retirement Investment Fund	-	-
4. Other Assets*	4,878	4,878
B. TOTAL ASSETS	<u>\$ 653,485</u>	<u>\$ 517,502</u>
C. AMOUNTS CURRENTLY PAYABLE	\$ 6,236	\$ 6,517
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$ 90,257	\$ 90,257
2. Employer Reserves	556,992	420,727
3. MPRIF Reserves	-	-
4. Non-MPRIF Reserves	-	-
5. Total Assets Available for Benefits	<u>\$ 647,249</u>	<u>\$ 510,984</u>
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	<u>\$ 653,485</u>	<u>\$ 517,501</u>
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D.5)		\$ 510,984
2. Market Value of Assets Available for Benefits (D.5)	\$ 647,249	
3. Cost Value of Assets Available for Benefits (D.5)	510,984	
4. Market over Cost (F.2 - F.3)	<u>\$ 136,265</u>	
5. 1/3 of Market over Cost (F.4 / 3)		<u>45,422</u>
6. Actuarial Value of Assets (F.1 + F.5)		<u>\$ 556,406</u>

*See "Asset Information" in the Commentary Section of this report.

TABLE 2

St. Paul Teachers' Retirement Fund
Change In Assets Available for Benefits
(dollars in thousands)

June 30, 1997

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$ 548,545	\$ 468,124
B. OPERATING REVENUES		
1. Member Contributions	\$ 9,484	\$ 9,484
2. Employer Contributions	16,043	16,043
3. Supplemental Contributions *	-	-
4. Investment Income	24,412	24,412
5. MPRIF Income	-	-
6. Investment Expenses	(2,046)	(2,046)
7. Net Realized Gain / (Loss)	22,728	22,728
8. Other	-	-
9. Net Change in Unrealized Gain / (Loss)	55,844	-
10. Total Operating Revenue	\$ 126,465	\$ 70,621
C. OPERATING EXPENSES		
1. Service Retirements	\$ 24,790	\$ 24,790
2. Disability Benefits	453	453
3. Survivor Benefits	1,866	1,866
4. Refunds	246	246
5. Administrative Expenses	406	406
6. Total Operating Expenses	\$ 27,761	\$ 27,761
D. OTHER CHANGES IN RESERVES	\$ -	\$ -
E. ASSETS AVAILABLE AT END OF PERIOD	\$ 647,249	\$ 510,984

*Included in Employer Contribution

TABLE 3

St. Paul Teachers' Retirement Fund
Active Members as of June 30, 1997

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	63	31	-	-	-	-	-	-	94
25-29	146	281	12	-	-	-	-	-	439
30-34	68	215	123	18	-	-	-	-	424
35-39	56	149	115	82	5	-	-	-	407
40-44	57	136	99	105	101	9	-	-	507
45-49	51	145	121	98	101	108	73	-	697
50-54	26	94	77	76	73	83	223	41	693
55-59	18	36	37	40	48	47	93	71	390
60-64	3	23	8	18	18	25	31	32	158
65+	4	8	5	5	6	1	3	1	33
ALL	492	1,118	597	442	352	273	423	145	3,842

AVERAGE ANNUAL EARNINGS

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	6,443	26,851	-	-	-	-	-	-	13,174
25-29	8,076	29,593	34,433	-	-	-	-	-	22,570
30-34	9,835	30,807	36,398	46,097	-	-	-	-	29,714
35-39	8,417	32,470	37,752	47,433	47,439	-	-	-	33,852
40-44	7,856	31,574	40,745	44,918	53,020	53,516	-	-	38,124
45-49	6,329	33,472	43,675	47,528	52,192	55,346	56,608	-	43,759
50-54	5,265	36,425	43,509	50,868	53,936	55,986	58,871	58,332	50,333
55-59	10,418	35,060	41,785	48,707	56,067	59,652	59,440	59,790	51,825
60-64	11,086	18,089	42,813	47,789	50,656	58,803	60,278	60,898	49,691
65+	5,762	5,378	29,947	48,124	55,712	58,960	56,007	51,891	32,411
ALL	7,879	31,219	40,098	47,531	53,234	56,551	58,688	59,568	39,397

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

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>TOTAL</u>
3,877	34,902	23,939	21,009	18,783	15,438	24,825	8,637	151,365

TABLE 4

St. Paul Teachers' Retirement Fund
Service Retirements as of June 30, 1997

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-
55-59	48	58	-	-	-	-	-	106
60-64	61	168	52	-	-	-	-	281
65-69	19	128	131	89	2	2	-	371
70-74	2	17	87	149	33	1	-	289
75-79	-	3	13	81	83	2	-	182
80-84	-	-	3	17	61	46	2	129
85+	-	-	-	-	2	90	68	160
ALL	130	374	286	336	181	141	70	1,518

<u>AGE</u>	<u>AVERAGE ANNUAL BENEFIT</u> <u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-
55-59	29,351	20,815	-	-	-	-	-	24,680
60-64	30,341	24,640	13,272	-	-	-	-	23,774
65-69	35,518	26,906	20,974	16,702	24,493	39,265	-	22,859
70-74	26,529	23,665	20,702	16,654	10,035	22,181	-	17,617
75-79	-	24,962	18,086	14,858	13,794	13,228	-	14,752
80-84	-	-	28,708	16,173	10,031	9,726	4,428	11,079
85+	-	-	-	-	3,499	7,937	5,323	6,771
ALL	30,674	24,781	19,441	16,210	11,845	9,141	5,298	18,489

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS RETIRED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
3,988	9,268	5,560	5,446	2,144	1,289	371	28,066

TABLE 5

St. Paul Teachers' Retirement Fund
Disability Retirements as of June 30, 1997

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	1	-	-	-	-	-	1
50-54	2	3	1	-	-	-	-	6
55-59	-	3	2	-	-	1	-	6
60-64	1	3	2	2	-	1	-	9
65+	-	-	-	-	-	-	-	- *
ALL	3	10	5	2	-	2	-	22

<u>AGE</u>	<u>AVERAGE ANNUAL BENEFIT</u> <u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	2,684	-	-	-	-	-	2,684
50-54	25,457	27,601	36,139	-	-	-	-	28,310
55-59	-	19,080	17,507	-	-	9,706	-	16,994
60-64	38,495	15,059	2,388	20,613	-	15,085	-	16,084
65+	-	-	-	-	-	-	-	- *
ALL	29,803	18,791	15,186	20,613	-	12,397	-	19,057

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS DISABLED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
89	188	76	41	-	25	-	419

* Disability retirements over the age of 65 have been reclassified as service retirements.

TABLE 6

St. Paul Teachers' Retirement Fund
Survivors as of June 30, 1997

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	1	6	-	1	-	-	1	9
50-54	-	3	2	-	-	-	-	5
55-59	-	6	4	2	1	-	-	13
60-64	-	3	4	2	1	1	-	11
65-69	1	7	5	3	2	1	-	19
70-74	-	12	8	6	3	1	-	30
75-79	3	9	7	12	4	3	-	38
80-84	2	10	4	3	6	-	-	25
85+	-	3	9	8	5	2	3	30
ALL	7	59	43	37	22	8	4	180

AVERAGE ANNUAL BENEFIT

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	9,055	11,011	-	13,999	-	-	3,350	10,274
50-54	-	15,049	13,486	-	-	-	-	14,424
55-59	-	16,265	11,594	11,208	5,155	-	-	13,195
60-64	-	14,528	18,308	10,108	6,985	4,291	-	13,483
65-69	21,505	22,820	13,129	5,853	6,661	3,477	-	15,234
70-74	-	14,582	12,902	16,354	4,862	7,076	-	13,266
75-79	11,533	17,058	5,070	6,867	8,623	5,016	-	9,357
80-84	11,233	10,210	9,688	6,289	7,113	-	-	8,995
85+	-	5,053	7,333	6,648	6,385	4,013	3,199	6,130
ALL	12,518	14,540	10,597	9,053	6,779	4,740	3,236	10,756

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS RETIRED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
87	858	456	335	149	38	13	1,936

TABLE 7

St. Paul Teachers' Retirement Fund
Reconciliation of Members

	Actives*	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1996	3934	136	1,011
B. ADDITIONS	525	27	198
C. DELETIONS			
1. Service Retirement	(150)	(2)	-
2. Disability	(4)	-	-
3. Death – Survivor	(1)	-	-
4. Death – Other	(3)	-	-
5. Terminated - Deferred	(27)	-	-
6. Terminated – Refund	(56)	(7)	(168)
7. Terminated - Other Non-Vested**	(195)	(3)	(258)
8. Returned as Active	1	(1)	-
D. DATA ADJUSTMENTS	(3)	(2)	-
Vested	2,848		
Non-Vested	1,173		
E. TOTAL ON June 30, 1997	4,021	148	783

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1996	1,395	22	178
B. ADDITIONS	163	4	13
C. DELETIONS			
1. Service Retirement	-	(2)	-
2. Death	(39)	(1)	(11)
3. Annuity Expired	-	-	-
4. Returned as Active	-	-	-
D. DATA ADJUSTMENTS	(1)	(1)	-
E. TOTAL ON June 30, 1997	1518	22	180

*Includes members on leave of absence.

** Includes participants who transferred service credits to another fund.

TABLE 8

St. Paul Teachers' Retirement Fund
Actuarial Balance Sheet
(dollars in thousands)

July 1, 1997

A. CURRENT ASSETS (Table 1; Line F.6)				\$	556,406
B. EXPECTED FUTURE ASSETS					
1. Present Value of Expected Future Statutory Supplemental Contributions				\$	186,264
2. Present Value of Future Normal Costs					135,277
3. Total Expected Future Assets					<u>321,541</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$	<u>877,947</u>
D. CURRENT BENEFIT OBLIGATIONS		Non-Vested	Vested		Total
1. Benefit Recipients					
a. Retirement Annuities			\$ 325,202	\$	325,202
b. Disability Benefits			4,403		4,403
c. Surviving Spouse and Child Benefits			19,308		19,308
2. Deferred Retirements			5,629		5,629
3. Former Members Without Vested Rights			402		402
4. Active Members					
a. Retirement Annuities *	\$	6,596	310,989		317,585
b. Disability Benefits		16,549	-		16,549
c. Surviving Spouse and Child Benefits		4,006	-		4,006
d. Deferred Retirements		975	12,190		13,165
e. Refund Liability Due to Death or Withdrawal		-	1,803		1,803
5. Total Current Benefit Obligations	\$	28,126	\$ 679,926	\$	<u>708,052</u>
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$	<u>184,814</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$	<u>892,866</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D.5 - A)				\$	151,646
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F - C)				\$	14,919

* Includes members on leave of absence.

TABLE 9

St. Paul Teachers' Retirement Fund
Determination of Unfunded Actuarial Accrued Liability (UAAL) and
Supplemental Contribution Rate
(dollars in thousands)

July 1, 1997

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Benefits	\$ 482,014	\$ 101,860	\$ 380,154
b. Disability Benefits	25,250	9,545	15,705
c. Surviving Spouse and Child Benefits	6,391	2,263	4,128
d. Deferred Retirements	20,518	13,727	6,791
e. Refund Liability Due to Death or Withdrawal	3,749	7,882	(4,133)
f. Total	<u>\$ 537,922</u>	<u>\$ 135,277</u>	<u>\$ 402,645</u>
2. Deferred Retirements	\$ 5,629		\$ 5,629
3. Former Members Without Vested Rights	402		402
4. Annuitants in MPRIF	-		-
5. Annuitants Not in MPRIF	348,913		348,913
6. Total	<u><u>\$ 892,866</u></u>	<u><u>\$ 135,277</u></u>	<u><u>\$ 757,589</u></u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. Actuarial Accrued Liability (A.6)			\$ 757,589
2. Current Assets (Table 1; Line F.6)			556,406
3. Unfunded Actuarial Accrued Liability (B.1 - B.2)			<u><u>\$ 201,183</u></u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of June 30, 2020			2,497,439
2. Supplemental Contribution Rate (B.3 / C.1)			<u><u>8.06%</u></u>

St. Paul Teachers' Retirement Fund
Changes in Unfunded Actuarial Accrued Liability (UAAL)
(dollars in thousands)

June 30, 1997

A. UAAL AT BEGINNING OF YEAR	\$ 169,141
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$ 17,280
2. Contributions	(25,527)
3. Interest	14,761
4. Total	<u>\$ 6,514</u>
C. EXPECTED UAAL AT END OF YEAR (A + B.4)	\$ 175,655
D. INCREASE / (DECREASE) DUE TO ACTUARIAL LOSSES / (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Age and Service Retirements *	\$ -
2. Disability Retirements *	-
3. Death-in-Service Benefits *	-
4. Withdrawal *	-
5. Salary Increases	(14,076)
6. Contribution Income *	-
7. Investment Income **	(7,848)
8. Mortality of Annuitants	(8,716)
9. Other Items	1,279
10. Total	<u>\$ (29,360)</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.5)	\$ 146,295
F. CHANGE IN UAAL DUE TO PLAN AMENDMENTS	76,934
G. CHANGE IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	<u>(22,046)</u>
H. UAAL AT END OF YEAR (E + F + G)	<u><u>\$ 201,183</u></u>

* Included in Item D.9.

** Includes a gross investment gain (\$21,735) offset by amounts used to provide next year's cost of living adjustments to retirees totaling \$13,887

TABLE 11

St. Paul Teachers' Retirement Fund
Determination of Contribution Sufficiency
(dollars in thousands)

July 1, 1997

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	6.30%	\$ 10,091
2. Employer Contributions	9.40%	15,051
3. Supplemental Contribution		
a. 1993 Legislation	0.00%	-
b. 1996 Legislation	0.45%	725
c. 1997 Legislation	3.01%	4,827
4. Administrative Expense Assessment	0.08%	128
5. Total	19.24%	\$ 30,822
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.55%	\$ 12,094
b. Disability Benefits	0.78%	1,244
c. Surviving Spouse and Child Benefits	0.16%	264
d. Deferred Retirements	1.00%	1,599
e. Refund Liability Due to Death or Withdrawal	0.63%	1,015
f. Total	10.12%	\$ 16,216
2. Supplemental Contribution Amortization	8.06%	12,905
3. Allowance for Administrative Expenses	0.27%	426
5. Total	18.45%	\$ 29,547
C. CONTRIBUTION SUFFICIENCY / (DEFICIENCY) (A.3 - B.5)	0.79%	1,275
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 160,200

St. Paul Teachers' Retirement Fund
Summary of Actuarial Assumptions and Methods

<i>Interest:</i>	Pre-Retirement: 8.50% per annum Post-Retirement: 8.50% per annum
<i>Salary Increases:</i>	Total reported pay for prior fiscal year increased through the salary increase assumption to current fiscal year. Graded rates are shown in the rate table.
<i>Mortality:</i>	<p><u>Pre-Retirement:</u></p> <p>Male: 1983 Group Annuity Mortality Table male rates set back 5 years.</p> <p>Female: 1983 Group Annuity Mortality Table female rates set back 3 years.</p> <p><u>Post-Retirement:</u></p> <p>Male: 1983 Group Annuity Mortality Table male rates set back 3 years.</p> <p>Female: 1983 Group Annuity Mortality Table female rates set back 1 years.</p> <p><u>Post-Disability:</u></p> <p>Male: 1977 Railroad Retirement Board Mortality for Disabled Annuitants</p> <p>Female: 1977 Railroad Retirement Board Mortality for Disabled Annuitants</p>
<i>Retirement Age:</i>	<p><u>Active Members:</u></p> <p>Active Members are assumed to retire according to the graded rates shown in the rate table. Rates are applied beginning at the participant's first early retirement age.</p> <p><u>Deferred Members:</u></p> <p>Basic Members are assumed to retire at age 60. Coordinated Members are assumed to retire at age 63. If over the assumed retirement age, one year from valuation date.</p> <p><u>Other Non-Vested Members:</u></p> <p>Return of contributions is assumed to occur immediately.</p>
<i>Separation:</i>	Graded rates shown in the rate table.
<i>Disability:</i>	Graded rates shown in the rate table.

TABLE 12
(cont)

<i>Administrative Expenses:</i>	Prior year administrative expenses (excluding investment expenses) expressed as a percentage of prior year payroll.
<i>Return of Contributions:</i>	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.
<i>Family Composition:</i>	85% of male Members and 60% of female Members are assumed to be married. Female is assumed to be four years younger than male. Married members are assumed to have two children.
<i>Social Security:</i>	N/A
<i>Benefit Increases After Retirement:</i>	2.0% per annum
<i>Special Consideration:</i>	Additional post retirement benefit increase is accounted for by increasing the reserve value for all service retirements, disability retirements and survivors eligible for the increase by an amount that equals the excess of the five year time weighted total rate of return over the assumed interest rate of 8.50% multiplied by the quantity of one minus the rate of contribution deficiency.
<i>Optional Benefit Forms:</i>	Married Members are assumed to elect the following forms of benefit: Males: 35% elect life annuity option 15% elect 50% J&S option 50% elect 100% J&S option Females: 80% elect life annuity option 10% elect 50% J&S option 10% elect 100% J&S option
<i>Actuarial Cost Method:</i>	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
<i>Asset Valuation Method:</i>	Cost Value plus one-third of Unrealized Gains or Losses.
<i>Payment on the Unfunded Actuarial Accrued Liability:</i>	The Unfunded Actuarial Accrued Liability is amortized as level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5.00% per annum.
<i>Missing Data:</i>	The submitted participant data has been reviewed for reasonableness and constancy with data submitted for prior valuations. We have not audited this data, and the results of this valuation may change based on the

TABLE 12
(cont)

accuracy of the underlying data. In cases where submitted data was missing or incomplete, the following assumptions were applied:

Date of Birth:	Average age of participant group based on prior years valuation report.
Date of Hire:	Current valuation date minus years of service.
Years of Service:	Years of service on last year's valuation plus one year.
Sex:	Male.
Deferred Benefit:	Calculated. Salary at termination is estimated based on termination date. Estimated salary is \$40,000 for 1996/1997 terminations and is decreased by 6.5% for each year that actual termination precedes July 1, 1997.

Supplemental Contributions: The St. Paul School District and the State of Minnesota are scheduled to make the following supplemental contributions to the plan:

1996 Legislation:

Supplemental contributions according to the following schedule (thousands of dollars):

<u>Year</u>	<u>State</u>	<u>School</u>
06/30/98	525	200
06/30/99	567	400
06/30/00	630	600
06/30/01	693	800
06/30/02+	756	800

1997 Legislation:

A supplemental contribution of \$4,827,000 made on October 1, 1997. Annual contributions of \$2,827,000 thereafter.

TABLE 12
(cont)

St. Paul Teachers' Retirement Fund
Summary of Actuarial Assumptions and Methods

Separations Expressed as the Number of Occurrences per 10,000:

<u>Age</u>	<u>Withdrawal</u>		<u>Disability</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	2,000	2,000	4	4
21	2,000	2,000	4	4
22	2,000	2,000	4	4
23	1,800	1,800	5	5
24	1,600	1,600	5	5
25	1,400	1,400	5	5
26	1,200	1,200	5	5
27	1,000	1,000	5	5
28	850	850	5	5
29	750	750	5	5
30	690	690	6	6
31	630	630	6	6
32	570	570	6	6
33	530	530	6	6
34	490	490	6	6
35	450	450	6	6
36	420	420	7	7
37	400	400	7	7
38	380	380	8	8
39	360	360	8	8
40	340	340	8	8
41	320	320	9	9
42	300	300	9	9
43	280	280	10	10
44	260	260	10	10
45	240	240	11	11
46	220	220	12	12
47	200	200	13	13
48	180	180	14	14
49	160	160	16	16
50	140	140	17	17
51	120	120	19	19
52	100	100	22	22
53	80	80	26	26
54	60	60	30	30

TABLE 12
(cont)

St. Paul Teachers' Retirement Fund
Summary of Actuarial Assumptions and Methods

Separations Expressed as the Number of Occurrences per 10,000:

<u>Age</u>	<u>Withdrawal</u>		<u>Disability</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
55	50	50	36	36
56	40	40	41	41
57	30	30	47	47
58	20	20	52	52
59	10	10	58	58
60	0	0	63	63
61	0	0	69	69
62	0	0	76	76
63	0	0	84	84
64	0	0	93	93
65	0	0	93	93
66	0	0	93	93
67	0	0	93	93
68	0	0	93	93
69	0	0	93	93
70	0	0	93	93

TABLE 12
(cont)

St. Paul Teachers' Retirement Fund
Summary of Actuarial Assumptions and Methods

Deaths Expressed as the Number of Occurrences per 10,000:

<u>Age</u>	Pre-Retirement Mortality		Post-Retirement Mortality		Post-Disability Mortality	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	3	2	3	2	271	271
21	3	2	4	2	271	271
22	3	2	4	2	271	271
23	4	2	4	2	272	272
24	4	2	4	2	272	272
25	4	2	4	2	272	272
26	4	2	4	3	272	272
27	4	2	4	3	272	272
28	4	3	5	3	272	272
29	4	3	5	3	272	272
30	5	3	5	3	272	272
31	5	3	5	3	272	272
32	5	3	6	4	272	272
33	5	3	6	4	272	272
34	6	4	6	4	273	273
35	6	4	7	4	273	273
36	6	4	7	5	273	273
37	7	4	8	5	273	273
38	7	5	9	5	273	273
39	8	5	9	6	273	273
40	9	5	10	6	273	273
41	9	6	10	7	273	273
42	10	6	11	7	273	273
43	10	7	12	8	274	274
44	11	7	14	8	274	274
45	12	8	15	9	274	274
46	14	8	17	10	275	275
47	15	9	19	11	276	276
48	17	10	22	12	279	279
49	19	11	25	14	283	283
50	22	12	28	15	289	289
51	25	14	31	16	297	297
52	28	15	35	18	310	310
53	31	16	39	19	327	327
54	35	18	43	21	348	348

TABLE 12
(cont)

St. Paul Teachers' Retirement Fund
Summary of Actuarial Assumptions and Methods

Separations Expressed as the Number of Occurrences per 10,000:

<u>Age</u>	Pre-Retirement Mortality		Post-Retirement Mortality		Post-Disability Mortality	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
55	39	19	48	23	371	371
56	43	21	52	25	395	395
57	48	23	57	28	417	417
58	52	25	61	31	437	437
59	57	28	66	34	455	455
60	61	31	71	38	473	473
61	66	34	77	42	494	494
62	71	38	84	47	516	516
63	77	42	92	52	541	541
64	84	47	101	58	569	569
65	92	52	111	64	598	598
66	101	58	124	71	628	628
67	111	64	139	78	658	658
68	124	71	156	87	687	687
69	139	78	176	97	716	716

TABLE 12
(cont)

St. Paul Teachers' Retirement Fund
Summary of Actuarial Assumptions and Methods

Retirements Expressed as the Number of Occurrences per 10,000:

Age	Basic Members Eligible for Rule of 90 Provision	Basic Members Not Eligible for Rule of 90 Provision	Coordinated Members Eligible for Rule of 90 Provision	Coordinated Members Not Eligible for Rule of 90 Provision
<55	4,000	0	4,000	0
55	4,000	1,000	4,000	500
56	4,000	1,000	4,000	500
57	4,000	1,000	4,000	500
58	4,000	1,000	4,000	500
59	4,000	1,000	4,000	500
60	4,000	1,000	4,000	500
61	4,000	1,000	4,000	500
62	4,000	4,000	4,000	2,000
63	4,000	4,000	4,000	2,000
64	4,000	4,000	4,000	2,000
65	4,000	4,000	4,000	2,000
66	5,000	5,000	4,000	4,000
67	5,000	5,000	4,000	4,000
68	5,000	5,000	4,000	4,000
69	5,000	5,000	4,000	4,000
70	5,000	5,000	4,000	4,000
71	8,000	8,000	8,000	8,000
72	8,000	8,000	8,000	8,000
73	8,000	8,000	8,000	8,000
74	8,000	8,000	8,000	8,000
75	8,000	8,000	8,000	8,000
76	8,000	8,000	8,000	8,000
77	8,000	8,000	8,000	8,000
78	8,000	8,000	8,000	8,000
79	8,000	8,000	8,000	8,000
80 or more	10,000	10,000	10,000	10,000

TABLE 12
(cont)

St. Paul Teachers' Retirement Fund
Summary of Actuarial Assumptions and Methods

Annual Salary Increases

<u>Age</u>	<u>Male</u>	<u>Female</u>
<22	7.25%	7.25%
23	7.25	7.25
24	7.20	7.20
25	7.15	7.15
26	7.10	7.10
27	7.05	7.05
28	7.00	7.00
29	6.95	6.95
30	6.90	6.90
31	6.85	6.85
32	6.80	6.80
33	6.75	6.75
34	6.70	6.70
35	6.65	6.65
36	6.60	6.60
37	6.55	6.55
38	6.50	6.50
39	6.40	6.40
40	6.30	6.30
41	6.20	6.20
42	6.10	6.10
43	6.00	6.00
44	5.90	5.90
45	5.80	5.80
46	5.70	5.70
47	5.65	5.65
48	5.60	5.60
49	5.55	5.55
50	5.50	5.50
51	5.45	5.45
52	5.40	5.40
53	5.35	5.35
54	5.30	5.30
55	5.25	5.25

TABLE 3A

BASIC

St. Paul Teachers' Retirement Fund
Active Members as of June 30, 1997

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-
40-44	-	-	-	4	15	7	-	-	26
45-49	-	-	-	7	26	92	69	-	194
50-54	-	-	-	4	7	74	209	41	335
55-59	-	-	-	-	9	35	87	67	198
60-64	-	-	-	1	3	22	30	32	88
65+	-	-	-	-	1	1	3	1	6
ALL	-	-	-	16	61	231	398	141	847

AVERAGE ANNUAL EARNINGS

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-
40-44	-	-	-	29,363	50,942	54,151	-	-	48,486
45-49	-	-	-	32,017	50,282	55,546	56,496	-	54,329
50-54	-	-	-	50,573	47,121	55,872	58,843	58,332	57,781
55-59	-	-	-	-	56,529	61,041	59,765	59,989	59,919
60-64	-	-	-	34,595	45,806	58,019	60,555	60,898	59,248
65+	-	-	-	-	55,877	58,960	56,007	51,891	55,792
ALL	-	-	-	36,154	50,875	56,691	58,745	59,656	57,343

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

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>TOTAL</u>
-	-	-	578	3,103	13,096	23,381	8,412	48,570

TABLE 4A

BASIC

St. Paul Teachers' Retirement Fund
Service Retirements as of June 30, 1997

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-
55-59	41	48	-	-	-	-	-	89
60-64	50	147	51	-	-	-	-	248
65-69	14	104	120	88	2	2	-	330
70-74	1	14	74	146	32	1	-	268
75-79	-	2	12	78	81	2	-	175
80-84	-	-	3	17	57	46	2	125
85+	-	-	-	-	2	90	68	160
ALL	106	315	260	329	174	141	70	1,395

AVERAGE ANNUAL BENEFIT

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-
55-59	31,952	23,327	-	-	-	-	-	27,301
60-64	33,398	26,889	13,470	-	-	-	-	25,442
65-69	43,070	30,928	22,577	16,838	24,493	39,265	-	24,661
70-74	37,657	25,313	23,483	16,940	10,200	22,181	-	18,476
75-79	-	36,872	19,477	15,373	13,892	13,228	-	15,190
80-84	-	-	28,708	16,173	10,667	9,726	4,428	11,403
85+	-	-	-	-	3,499	7,937	5,323	6,771
ALL	34,156	27,673	20,976	16,502	12,159	9,141	5,298	19,352

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS RETIRED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
3,620	8,717	5,454	5,429	2,116	1,289	371	26,996

TABLE 5A

BASIC

St. Paul Teachers' Retirement Fund
Disability Retirements as of June 30, 1997

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	-	-	-	-	-	-	-
50-54	1	2	1	-	-	-	-	4
55-59	-	1	2	-	-	1	-	4
60-64	1	2	2	2	-	1	-	8
65+	-	-	-	-	-	-	-	- *
ALL	2	5	5	2	-	2	-	16

AVERAGE ANNUAL BENEFIT

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	-	-	-	-	-	-	-
50-54	39,012	34,471	36,139	-	-	-	-	36,023
55-59	-	38,717	17,507	-	-	9,709	-	20,860
60-64	38,495	18,218	2,388	20,613	-	15,085	-	17,002
65+	-	-	-	-	-	-	-	- *
ALL	38,754	28,819	15,186	20,613	-	12,397	-	22,722

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS DISABLED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
78	144	76	41	-	25	-	364

* Disability retirements over the age of 65 have been reclassified as service retirements.

TABLE 6A

BASIC

St. Paul Teachers' Retirement Fund
Survivors as of June 30, 1997

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	1	4	-	1	-	-	1	7
50-54	-	3	2	-	-	-	-	5
55-59	-	6	4	2	1	-	-	13
60-64	-	2	4	2	1	1	-	10
65-69	1	7	4	2	2	1	-	17
70-74	-	12	8	6	3	1	-	30
75-79	3	9	7	12	4	3	-	38
80-84	2	10	4	3	6	-	-	25
85+	-	3	9	8	5	2	3	30
ALL	7	56	42	36	22	8	4	175

AVERAGE ANNUAL BENEFIT

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	9,055	15,745	-	13,999	-	-	3,350	12,769
50-54	-	15,049	13,486	-	-	-	-	14,424
55-59	-	16,265	11,594	11,208	5,155	-	-	13,195
60-64	-	19,093	18,308	10,108	6,985	4,291	-	14,291
65-69	21,505	22,820	16,012	12,682	6,661	3,477	-	16,909
70-74	-	14,582	12,902	16,354	4,862	7,076	-	13,266
75-79	11,533	17,058	5,070	6,867	8,623	5,016	-	9,357
80-84	11,233	10,210	9,688	6,289	7,113	-	-	8,995
85+	-	5,053	7,333	6,648	6,385	4,013	3,199	6,130
ALL	12,518	15,168	10,811	9,294	6,779	4,740	3,236	11,004

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS RETIRED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
88	849	454	335	149	38	13	1,926

St. Paul Teachers' Retirement Fund
Determination of Contribution Sufficiency
(dollars in thousands)

July 1, 1997

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	8.00%	\$ 4,097
2. Employer Contributions	11.64%	5,962
3. Supplemental Contribution		
a. 1993 Legislation	0.00%	-
b. 1996 Legislation	0.45%	230
c. 1997 Legislation	3.01%	1,542
4. Administrative Expense Assessment	0.08%	41
5. Total	23.18%	\$ 11,872
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	8.34%	\$ 4,269
b. Disability Benefits	1.30%	666
c. Surviving Spouse and Child Benefits	0.18%	93
d. Deferred Retirements	1.47%	751
e. Refund Liability Due to Death or Withdrawal	1.27%	653
f. Total	12.56%	\$ 6,432
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 51,217

St. Paul Teachers' Retirement Fund
Summary of Plan Provisions

GENERAL

<i>Eligibility:</i>	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.
<i>Contributions:</i>	Member: 8.00% of Salary. Employer: 11.64% of Salary.
<i>Allowable Service:</i>	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 using actual duty days vs. the agreed number of annual duty days. Years of service credited prior to May 31, 1976 are not recomputed.
<i>Salary:</i>	Total compensation. Excludes lump sum payments for unused vacation leave or unused sick leave at separation.
<i>Average Salary:</i>	Average of the 5 highest years of Salary during the last 10 years while making contributions or while disabled.

RETIREMENT

Normal Retirement Benefit:

<i>Eligibility:</i>	Age 65 and 5 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.
<i>Amount:</i>	2.50% of Average Salary for each year of Allowable Service.

Early Retirement Benefit:

<i>Eligibility:</i>	An unreduced benefit is available upon the attainment of age 60 and 25 years of Allowable Service, or Rule of 90 (Age plus Allowable Service totals 90). A reduced benefit is available upon the attainment of age 55 and 5 years of Allowable Service.
---------------------	--

TABLE 13A
(cont)
BASIC

<i>Amount:</i>	<p>The greater of:</p> <p>2.00% of Average Salary for each year of Allowable Service not to exceed 40 years with reduction of 0.25% for each month the Member is under age 65 (age 60 if 25 years of Allowable Service). No reduction if age plus years of Allowable Service totals 90.</p> <p>or</p> <p>2.50% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65.</p>
<i>Form of Payment:</i>	Life annuity.
<i>Benefit Increases:</i>	<p>Benefits are increased 2.0% annually beginning on the January 1 following fiscal year end if the Member has been receiving benefits for at least 12 months at fiscal year end. Beneficiaries are entitled to the increase the Member would have received.</p> <p>In addition, if the time weighted rate of return over the last 5 years exceeds 8.5%, the Board of Trustees will increase benefits by the excess rate of return multiplied by the quantity of one minus the rate of contribution deficiency.</p>

DISABILITY

Disability Benefit:

<i>Eligibility:</i>	Totally and permanently disabled before the age of 65 with 5 years of St. Paul service.
<i>Amount:</i>	<p>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.</p> <p>Payments are recomputed as a retirement at age 65. Payments stop if disability ceases or death occurs.</p>
<i>Form of Payment:</i>	Life annuity.
<i>Benefit Increases:</i>	Same as for retirement.

TABLE 13A
(cont)
BASIC

Retirement After Disability:

<i>Eligibility:</i>	Age 65 with continued disability.
<i>Amount:</i>	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.
<i>Form of Payment:</i>	Life annuity.
<i>Benefit Increases:</i>	Same as for retirement.

DEATH

Family Benefits:

<i>Eligibility:</i>	Active Member with 3 years of St. Paul service.
<i>Amount:</i>	<p>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.</p> <p>Spouse's benefits cease upon death or when the spouse elects to receive 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).</p>

Survivor's Benefits:

<i>Eligibility:</i>	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.
<i>Amount:</i>	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.
<i>Benefit Increases:</i>	Same as for a retired person if payments have been made over one year. The allocation is based on the years of Allowable Service of the person on whose behalf the annuity is paid and the years receiving the payment.

TABLE 13A
(cont)
BASIC

Refund of Contributions:

Eligibility:

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 6.00% interest (unless the Member was disabled) over total benefits paid.

TERMINATION

Deferred Annuity:

Eligibility:

5 years of Allowable Service.

Amount:

Benefit computed under law in effect at termination and increased following annual percentage:

3.00% until January 1 of the year following the attainment of 55, and

5.00% thereafter until the annuity begins.

Amount is payable as a normal or early retirement benefit.

Refund of Contributions:

Eligibility:

Termination of teaching service.

Amount:

Member's contributions with 5.00% interest if termination occurred before May 16, 1989 and 6.00% interest if termination occurred after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

TABLE 3B

COORDINATED

St. Paul Teachers' Retirement Fund
Active Members as of June 30, 1997

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	63	31	-	-	-	-	-	-	94
25-29	146	281	12	-	-	-	-	-	439
30-34	68	215	123	18	-	-	-	-	424
35-39	56	149	115	82	5	-	-	-	407
40-44	57	136	99	101	86	2	-	-	481
45-49	51	145	121	91	75	16	4	-	503
50-54	26	94	77	72	66	9	14	-	358
55-59	18	36	37	40	39	12	6	4	192
60-64	3	23	8	17	15	3	1	-	70
65+	4	8	5	5	5	-	-	-	27
ALL	492	1,118	597	426	291	42	25	4	2,995

AVERAGE ANNUAL EARNINGS

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	6,443	26,851	-	-	-	-	-	-	13,174
25-29	8,076	29,593	34,433	-	-	-	-	-	22,570
30-34	9,835	30,807	36,398	46,097	-	-	-	-	29,714
35-39	8,417	32,470	37,752	47,433	47,439	-	-	-	33,852
40-44	7,856	31,574	40,745	45,534	53,382	51,293	-	-	37,564
45-49	6,329	33,472	43,675	48,722	52,854	54,199	58,554	-	39,682
50-54	5,265	36,425	43,509	50,884	54,659	56,918	59,280	-	43,364
55-59	10,418	35,060	41,785	48,707	55,960	55,598	54,731	56,451	43,478
60-64	11,086	18,089	41,813	48,565	51,626	64,551	51,979	-	37,678
65+	5,762	5,378	29,947	48,124	55,679	-	-	-	27,216
ALL	7,879	31,219	40,098	47,958	53,728	55,783	57,780	56,451	34,322

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

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>TOTAL</u>
3,877	34,902	23,939	20,430	15,635	2,343	1,444	226	102,796

TABLE 4B

COORDINATED

St. Paul Teachers' Retirement Fund
Service Retirements as of June 30, 1997

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-
55-59	7	10	-	-	-	-	-	17
60-64	11	21	1	-	-	-	-	33
65-69	5	24	11	1	-	-	-	41
70-74	1	3	13	3	1	-	-	21
75-79	-	1	1	3	2	-	-	7
80-84	-	-	-	-	4	-	-	4
85+	-	-	-	-	-	-	-	-
ALL	24	59	26	7	7	-	-	123

AVERAGE ANNUAL BENEFIT

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-
55-59	14,116	8,755	-	-	-	-	-	10,962
60-64	16,450	8,899	3,174	-	-	-	-	11,242
65-69	14,373	9,478	3,493	4,727	-	-	-	8,353
70-74	15,401	15,970	4,874	2,743	4,766	-	-	6,651
75-79	-	1,141	1,400	1,467	9,822	-	-	3,798
80-84	-	-	-	-	959	-	-	959
85+	-	-	-	-	-	-	-	-
ALL	15,293	9,338	4,091	2,479	4,035	-	-	8,699

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS RETIRED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
368	551	106	17	28	-	-	1,070

COORDINATED

St. Paul Teachers' Retirement Fund
Disability Retirements as of June 30, 1997

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	1	-	-	-	-	-	1
50-54	1	1	-	-	-	-	-	2
55-59	-	2	-	-	-	-	-	2
60-64	-	1	-	-	-	-	-	1
65+	-	-	-	-	-	-	-	- *
ALL	1	5	-	-	-	-	-	6

<u>AGE</u>	<u>AVERAGE ANNUAL BENEFIT</u> <u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	2,684	-	-	-	-	-	2,684
50-54	11,903	13,861	-	-	-	-	-	12,882
55-59	-	9,262	-	-	-	-	-	9,262
60-64	-	8,741	-	-	-	-	-	8,741
65+	-	-	-	-	-	-	-	- *
ALL	11,903	8,762	-	-	-	-	-	9,286

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS DISABLED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
12	44	-	-	-	-	-	56

* Disability retirements over the age of 65 have been reclassified as service retirements.

COORDINATED

St. Paul Teachers' Retirement Fund
Survivors as of June 30, 1997

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

AVERAGE ANNUAL BENEFIT

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	-	1,542	-	-	-	-	-	1,542
50-54	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-
60-64	-	5,400	-	-	-	-	-	5,400
65-69	-	-	1,596	386	-	-	-	991
70-74	-	-	-	-	-	-	-	-
75-79	-	-	-	-	-	-	-	-
80-84	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-
ALL	-	2,828	1,596	386	-	-	-	2,093

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS RETIRED

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
-	8	2	0	-	-	-	10

St. Paul Teachers' Retirement Fund
Determination of Contribution Sufficiency
(dollars in thousands)

July 1, 1997

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	5.50%	\$ 5,994
2. Employer Contributions	8.34%	9,089
3. Supplemental Contribution		
a. 1993 Legislation	0.00%	-
b. 1996 Legislation	0.45%	495
c. 1997 Legislation	3.01%	3,285
4. Administrative Expense Assessment	0.08%	87
5. Total	17.38%	\$ 18,950
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.18%	\$ 7,825
b. Disability Benefits	0.53%	578
c. Surviving Spouse and Child Benefits	0.16%	171
d. Deferred Retirements	0.78%	848
e. Refund Liability Due to Death or Withdrawal	0.33%	362
f. Total	8.98%	\$ 9,784
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 108,983

St. Paul Teachers' Retirement Fund
Summary of Plan Provisions

GENERAL

<i>Eligibility:</i>	A teacher who is employed in 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.
<i>Contributions:</i>	Member: 5.50% of Salary. Employer: 8.34% of Salary.
<i>Allowable Service:</i>	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 using actual duty days vs. the agreed number of annual duty days. Years of service credited prior to May 31, 1976 are not recomputed.
<i>Salary:</i>	Total compensation. Excludes lump sum payments for unused vacation leave or unused sick leave at separation.
<i>Average Salary:</i>	Average of the 5 highest successive years of Salary. Average Salary is based on all Allowable Service is less than 5 years

RETIREMENT

Normal Retirement Benefit:

<i>Eligibility:</i>	
First hired before July 1, 1989:	Age 65 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.
First hired after July 1, 1989:	The greater of age 65 or the age eligible for full Social Security retirement benefits (but not greater than age 66) and 3 years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and 1 year of Allowable Service.

TABLE 13B
(cont)
COORDINATED

Amount: 1.70% of Average Salary for each year of Allowable Service.

Early Retirement Benefit:

Eligibility: Age 55 and 3 years of Allowable Service. Any age with 30 years of Allowable Service. Rule of 90: Age plus Allowable Service totals 90.

Amount:

First hired before
July 1, 1989:

The greater of:

1.20% of Average Salary for each of the first 10 years of Allowable Service plus 1.70% of Average Salary for each subsequent year of Allowable Service with reduction of 0.25% for each month the Member is under age 65 (age 62 if 30 years of Allowable Service). No reduction if age plus years of Allowable Service totals 90.

or

1.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65.

First hired after
July 1, 1989:

1.70% of Average Salary for each year of Allowable Service assuming augmentation to Normal Retirement Age at 3.00% per year and actuarial reduction for each month the Member is under Normal Retirement Age.

Form of Payment:

Life annuity. Actuarial equivalent options are:

- Guaranteed refund,
- 15 year certain and life, and
- 50% or 100% joint and survivor with bounce back feature without additional reduction.

Benefit Increases:

Benefits are increased 2.0% annually beginning on the January 1 following fiscal year end if the Member has been receiving benefits for at least 12 months at fiscal year end. Beneficiaries are entitled to the increase the Member would have received.

In addition, if the time weighted rate of return over the last 5 years exceeds 8.5%, the Board of Trustees will increase benefits

TABLE 13B
(cont)
COORDINATED

by the excess rate of return multiplied by the quantity of one minus the rate of contribution deficiency.

DISABILITY

Disability Benefit:

Eligibility: Totally and permanently disabled before normal retirement age with 3 years of Allowable Service. Also, at least 2 of the years of Allowable Service must have been uninterrupted.

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

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

Form of Payment: Same as for retirement.

Benefit Increases: Same as for retirement.

Retirement After Disability:

Eligibility: Normal retirement age with continued disability.

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

Benefit Increases: Same as for retirement.

DEATH

Surviving Spouse Annuity:

Eligibility: Any active Member who dies with 3 years of Allowable Service prior to retirement or disability benefits commence.

Any former Member who dies before retirement or disability benefits commence.

TABLE 13B
(cont)
COORDINATED

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

Upon the death of any vested active member, the benefit is calculated using 50% of otherwise applicable early retirement reduction from the Member's age 55 to the Member's benefit commencement age.

If a former Member had attained age 55 prior to death and had earned at least 3 years of Allowable Service prior to separation of service, benefits will commence immediately reduced for early commencement from Normal Retirement Age. If a former Member had earned at least 30 years of Allowable Service prior to separation of service, benefit will commence immediately, reduced for early commencement from age 62. If a former Member dies prior to age 55, benefits are deferred to age 55.

Benefit Increases: Same as for a retired person if payments have been made over one year. The allocation is based on the years of Allowable Service of the person on whose behalf the annuity is paid and the years receiving the payment.

Refund of Contributions:

Eligibility: Member or former Member dies before receiving any disability or retirement benefits and Survivor's Benefits are not payable.

Amount: Member's contributions with 5.00% interest if death occurred before May 16, 1989 and 6.00% interest if death occurred after May 16, 1989.

TERMINATION

Deferred Annuity:

Eligibility: 3 years of Allowable Service.

Amount: Benefit computed under law in effect at termination and increased by the following annual percentage:

3.00% until January 1 of the year following the attainment of 55, and

5.00% thereafter until the annuity begins.

Amount is payable as a normal or early retirement benefit.

TABLE 13B
(cont)
COORDINATED

Refund of Contributions:

Eligibility:

Termination of teaching service.

Amount:

Member's contributions with 5.00% interest if termination occurred before May 16, 1989 and 6.00% interest if termination occurred after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

St. Paul Teachers' Retirement Fund
Schedule of Funding Progress
(dollars in thousands)

July 1, 1997

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (B)	Unfunded AAL (UAAL) (B)-(A)	Funded Ratio (A)/(B)	Actual Covered Payroll (Previous FY) (C)	UAAL as % of Covered Payroll ((B)-(A))/(C)
07/01/91	\$ 326,357	\$ 495,740	\$ 169,383	65.83%	\$ 110,131	153.80%
07/01/92	355,998	533,865	177,867	66.68%	115,274	154.30%
07/01/93	393,168	571,059	177,891	68.85%	122,930	144.71%
07/01/94	407,275	596,441	189,166	68.28%	129,308	146.29%
07/01/95	445,733	633,070	187,337	70.41%	139,175	134.61%
07/01/96	494,931	664,072	169,141	74.53%	145,677	116.11%
07/01/97	556,406	757,589	201,183	73.44%	151,363	132.91%

St. Paul Teachers' Retirement Fund
Schedule of Employer Contributions
(dollars in thousands)

July 1, 1997

Year Ended June 30	Actuarially Required Contribution Rate (A)	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contributions [(A)*(B)]-(C)	Actual Employer Contributions*	Percentage Contributed
1991	18.86%	\$ 110,131	\$ 7,518	\$ 13,253	\$ 10,255	77.38%
1992	18.87%	115,274	7,821	13,931	10,489	75.29%
1993	19.74%	122,930	8,202	16,064	10,839	67.47%
1994	18.68%	129,308	9,100	15,055	11,736	77.96%
1995	18.63%	139,175	8,788	17,140	13,084	76.33%
1996	17.96%	145,677	9,093	17,071	15,101	88.46%
1997	16.97%	151,363	9,484	16,202	16,043	99.02%

*Includes contributions from other sources (if applicable)