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November 6, 2002

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

**RE: St. Paul Teachers' Retirement Fund  
July 1, 2002 Actuarial Valuation Report**

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, 2002.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. Although we have reviewed the data for reasonableness and consistency, 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 Legislative Commission on Pensions and Retirement.

We, Thomas K. Custis and Lance M. Burma, are actuaries for Milliman USA. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Milliman USA

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

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

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**St. Paul Teachers' Retirement Fund**  
***ACTUARIAL VALUATION REPORT***

July 1, 2002

**St. Paul Teachers' Retirement Fund**  
***Table of Contents***

<b>REPORT HIGHLIGHTS .....</b>	<b>1</b>
--------------------------------	----------

**COMMENTARY**

Purpose .....	2
Report Highlights .....	2
Asset Information .....	2
Actuarial Balance Sheet.....	4
Actuarial Cost Method.....	4
Sources of Actuarial Gains and Losses .....	5
Contribution Sufficiency .....	5
Changes in Actuarial Assumptions.....	6
Changes in Plan Provisions .....	7
Other .....	7

**ASSET INFORMATION**

Table 1 - Accounting Balance Sheet .....	8
Table 2 - Changes in Assets Available for Benefits .....	9

**MEMBERSHIP DATA**

Table 3 - Active Members .....	10
Table 4 - Service Retirements .....	11
Table 5 - Disability Retirements.....	12
Table 6 - Survivors. ....	13
Table 7 - Reconciliation of Members .....	14

**FUNDING STATUS**

Table 8 - Actuarial Balance Sheet .....	15
Table 9 - Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate .....	16
Table 10 - Changes in Unfunded Actuarial Accrued Liability (UAAL).....	17
Table 11 - Determination of Contribution Sufficiency .....	18

**ACTUARIAL ASSUMPTIONS**

Table 12 - Summary of Actuarial Assumptions and Methods .....	19
---	----

## BASIC PLAN

### **MEMBERSHIP DATA**

Table 3A -	Active Members .....	28
Table 4A -	Service Retirements .....	29
Table 5A -	Disability Retirements.....	30
Table 6A -	Survivors .....	31

### **FUNDING STATUS**

Table 11A -	Determination of Contribution Sufficiency .....	32
-------------	---	----

### **PLAN PROVISIONS**

Table 13A -	Summary of Plan Provisions .....	33
-------------	----------------------------------	----

## COORDINATED PLAN

### **MEMBERSHIP DATA**

Table 3B -	Active Members .....	38
Table 4B -	Service Retirements .....	39
Table 5B -	Disability Retirements.....	40
Table 6B -	Survivors.....	41

### **FUNDING STATUS**

Table 11B -	Determination of Contribution Sufficiency .....	42
-------------	---	----

### **PLAN PROVISIONS**

Table 13B -	Summary of Plan Provisions.....	43
-------------	---------------------------------	----

## TOTAL PLAN

### **GASB DISCLOSURE**

Table 14 -	Schedule of Funding Progress .....	48
Table 15 -	Schedule of Employer Contributions.....	49

**St. Paul Teachers' Retirement Fund**  
**Report Highlights**  
*(dollars in thousands)*

	July 1, 2001 Valuation	July 1, 2002 Valuation
<b>A. CONTRIBUTIONS % OF PAYROLL (Table 11)</b>		
1. Statutory Contributions - Chapter 354A	17.07%	17.06%
2. Required Contributions - Chapter 356	15.81%	18.56%
3. Sufficiency / (Deficiency)	1.26%	(1.50%)
<b>B. FUNDING RATIOS</b>		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$ 869,045	\$ 899,572
b. Current Benefit Obligations (Table 8)	1,009,535	1,089,692
c. Funding Ratio	86.08%	82.55%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$ 869,045	\$ 899,572
b. Actuarial Accrued Liability (Table 9)	1,060,931	1,141,300
c. Funding Ratio	81.91%	78.82%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$ 1,247,302	\$ 1,288,741
b. Current and Expected Future Benefit Obligations	1,226,096	1,352,343
c. Funding Ratio	101.73%	95.30%
<b>C. PLAN PARTICIPANTS</b>		
1. Active Members		
a. Number (Table 3)	4,671	4,306
b. Projected Annual Earnings	\$ 214,775	\$ 214,594
c. Average Annual Earnings (Actual dollars)	\$ 43,441	\$ 46,785
d. Average Age	43.1	43.7
e. Average Service	10.5	11.1
f. Additional Members on Leave of Absence*	253	156
2. Others		
a. Service Retirements (Table 4)	1,807	1,884
b. Disability Retirements (Table 5)	23	24
c. Survivors (Table 6)	220	228
d. Deferred Retirements (Table 7)	324	815
e. Terminated Other Non-Vested (Table 7)	1,671	2,078
f. Total	4,045	5,029

\* 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. As of July 1, 2002, the *Accrued Benefit Funding Ratio* is 82.55%.

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 by the State. For 2002 the *Accrued Liability Funding Ratio* is 78.82%.

The *Projected Benefit Funding Ratio* is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 95.30% shows that the current statutory contributions are not sufficient in the long run.

Please see additional commentary on page 1 of this report regarding the comparable funding ratios determined as of July 1, 2001.

#### *Asset Information (Tables 1 and 2)*

Effective with the July 1, 2000 valuation of the fund, Minnesota Statutes require that the asset value used for actuarial purposes spread differences between actual return (measured on a market-value basis) and expected return on assets over a five year period. The previous method required under Minnesota Statutes recognized one third of the unrealized gains and losses. An Asset Valuation Method 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 intent of the change to the current method is to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style. The effective date of this requirement is July 1, 2000 with full transition to be accomplished as of July 1, 2003.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F.1 to F.4. Actuarial Value of Assets is determined as:

Market Value of Assets at June 30, 2002, *less*

80% of the current year Unrecognized Asset Return at July 1, 2002 (the difference between actual net return on Market Value of Assets between June 30, 2001 and June 30, 2002 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2001 Actuarial Valuation); *less*

60% of the current year Unrecognized Asset Return at July 1, 2001 (the difference between actual net return on Market Value of Assets between June 30, 2000 and June 30, 2001 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2000 Actuarial Valuation); *less*

40% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between June 30, 1999 and June 30, 2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less*

10% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on June 30, 1999 and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

Since its adoption on July 1, 2000, the Asset Valuation Method has functioned effectively to smooth the significant variability in market value returns. It is prudent to note, however, that the deferral of recognition of the large market losses of the last two fiscal years means there has accumulated a significant negative return amount that will be recognized over the next few years. This means that in order for asset returns on a "Current Assets" basis to be at or near the assumed 8.5%, market value returns will need to be substantially above 8.5%; conversely, if market value returns are at or near the assumed 8.5%, returns measured on a "Current Assets" basis will be substantially lower, resulting in actuarial losses.

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:

<b>Other Assets</b> <b>Table 1 Item A.4</b> <i>(dollars in thousands)</i>	
	<u>Market Value</u>
Accounts Receivable	
Employer Contribution	\$ 955
Employee Contribution	37
Interest	7
Commission Recapture	<u>1</u>
Total Accounts Receivable	\$1,000
Fixed Assets	<u>34</u>
Total Other Assets	<u><u>\$1,034</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. 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 deficiency of 1.50% since the Statutory Contribution Rate is 17.06% compared to the Required Contribution Rate of 18.56%.

### ***Changes in Actuarial Assumption***

This report reflects the new assumptions which became effective July 1, 2002. These revised assumptions were developed from the recently completed experience study and have been approved by the Commission. Effective with this July 1, 2002 valuation, the following assumptions have been changed:

Assumption	Prior	Revised
Salary increases	Merit table that ranges from 7.25% at age 20 down to 5.25% at age 70	Ten year select and ultimate table. During the select period, $0.3\% \times (10 - T)$ where T is completed years of service is added to the ultimate rate. Ultimate table ranges from 6.9% at age 20 down to 5.0% at age 60 and over.
Male Pre-Retirement Mortality	1983 GAM (Male – 5)	1983 GAM (Male – 7)
Female Pre-Retirement Mortality	1983 GAM (Female – 3)	1983 GAM (Female – 5)
Separation Decrement	Graded rates	Select and ultimate table. Ultimate rates are generally lower than prior rates.
Disability Decrement	Graded rates	Graded rates. Revised rates are lower than prior rates.
Form of Annuity Selected - Male	85% married 15% elect 50% J&S option 50% elect 100% J&S option	85% married 10% elect 50% J&S option 45% elect 100% J&S option
Form of Annuity Selected - Female	60% married 10% elect 50% J&S option 10% elect 100% J&S option	60% married 10% elect 50% J&S option 10% elect 100% J&S option
Combined Service Annuity Load Factor	None assumed	7.0% load on liabilities for active Members and 30% load on liabilities for former Members.

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***

Effective with this July 1, 2002 valuation, the following plan provisions have been added or amended:

Effective July 1, 2002, 359 charter school teachers are no longer covered by this fund. Active charter school teachers retain their rights to benefits earned in this fund through June 30, 2002 as if they were former Members with a termination of employment on June 30, 2002. Effective July 1, 2002, these 359 charter school Members are transferred to the Minnesota Teachers Retirement Association.

*Supplemental Administrative Expense Assessment.* An administrative expense assessment otherwise payable under law will not be assessed if the administrative expenses of the Fund do not exceed the July 1, 2001 administrative expense amount adjusted for inflation.

All other plan provisions are the same as those used in the prior actuarial valuation of the Fund. Tables 13A and 13B contain summaries of current plan benefits.

### ***Other***

While not a formal change in provisions, a change in the expected amount of state aid has occurred with the Fund. Since the Duluth Teachers Retirement Fund Accrued Liability Funding Ratio exceeded the Teachers Retirement Fund Accrued Liability Funding Ratio as of July 1, 2001, the state aid normally provided to Duluth shall be reallocated to the other first class city teachers funds. This results in an increase in the amount of state aid for this Fund.

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

July 1, 2002

	Market Value	Cost Value
<b>A. ASSETS</b>		
1. Cash, Equivalents, Short-Term Securities	\$ 12,989	\$ 12,989
2. Investments		
a. Fixed Income	191,859	162,319
b. Equity	567,037	517,320
c. Real Estate	-	-
d. Alternative	3,847	4,103
3. Equity in Minnesota Post-Retirement Investment Fund	-	-
4. Other Assets*	1,034	1,034
<b>B. TOTAL ASSETS</b>	<u>\$ 776,766</u>	<u>\$ 697,765</u>
<b>C. AMOUNTS CURRENTLY PAYABLE</b>	\$ 680	\$ 680
<b>D. ASSETS AVAILABLE FOR BENEFITS</b>		
1. Member Reserves	\$ 112,239	\$ 112,239
2. Employer Reserves	663,847	584,846
3. MPRIF Reserves	-	-
4. Non-MPRIF Reserves	-	-
5. Total Assets Available for Benefits	<u>\$ 776,086</u>	<u>\$ 697,085</u>
<b>E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS</b>	<u>\$ 776,766</u>	<u>\$ 697,765</u>
<b>F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS</b>		
1. Market Value of Assets Available for Benefits (D.5)	\$ 776,086	
2. Unrecognized Asset Returns		
a. June 30, 2002	\$ (96,072)	
b. June 30, 2001	(104,645)	
c. June 30, 2000	15,965	
d. June 30, 1999	97,722	
3. UAR Adjustment: $.80 * 2(a) + .60 * 2(b) + .40 * 2(c) + .1 * 2(d)$	(123,486)	
4. Actuarial Value of Assets (F.1 - F.3)	<u>\$ 899,572</u>	

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

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

June 30, 2002

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$ 824,225	\$ 712,889
B. OPERATING REVENUES		
1. Member Contributions	\$ 14,468	\$ 14,468
2. Employer Contributions	20,958	20,958
3. Supplemental Contributions	3,258	3,258
4. Investment Income	8,843	8,843
5. MPRIF Income	-	-
6. Investment Expenses	(2,627)	(2,627)
7. Net Realized Gain / (Loss)	(796)	(796)
8. Other	-	-
9. Net Change in Unrealized Gain / (Loss)	(32,335)	-
10. Total Operating Revenue	\$ 11,769	\$ 44,104
C. OPERATING EXPENSES		
1. Service Retirements	\$ 53,007	\$ 53,007
2. Disability Benefits	766	766
3. Survivor Benefits	4,966	4,966
4. Refunds	717	717
5. Administrative Expenses	452	452
6. Total Operating Expenses	\$ 59,908	\$ 59,908
D. OTHER CHANGES IN RESERVES	\$ -	\$ -
E. ASSETS AVAILABLE AT END OF PERIOD	\$ 776,086	\$ 697,085
F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN		
1. Average Balance		
(a) Assets Available at Beginning of Period	\$ 824,225	
(b) Assets Available at End of Period	776,086	
(c) Average Balance $\{[(a) + (b) - \text{Net Investment Income}] / 2\}$	\$ 813,613	
{Net Investment Income: B.4+B.5+B.6+B.7+B.8+B.9}		
2. Expected Return: $.085 * F.1$	69,157	
3. Actual Return	(26,915)	
4. Current Year UAR: $F.3 - F.2$	\$ (96,072)	

**TABLE 3**  
**Total Plan**

**St. Paul Teachers Retirement Fund**  
**ACTIVE MEMBERS AS OF JUNE 30, 2002**

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u>&lt;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	59	41	1	0	0	0	0	0	101
25-29	78	320	48	1	0	0	0	0	447
30-34	54	276	249	6	0	0	0	0	585
35-39	31	149	181	96	17	0	0	0	474
40-44	39	162	137	101	71	5	0	0	515
45-49	50	125	130	92	100	95	8	0	600
50-54	30	129	134	106	88	99	104	71	761
55-59	16	69	78	67	61	68	69	179	607
60-64	6	28	28	27	19	21	20	25	174
65+	3	17	6	2	5	4	2	3	42
ALL	366	1,316	992	498	361	292	203	278	4,306

**AVERAGE ANNUAL EARNINGS**

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u>&lt;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	17,109	27,231	22,967	0	0	0	0	0	21,276
25-29	23,238	32,912	40,243	30,944	0	0	0	0	32,007
30-34	25,696	34,127	42,218	47,100	0	0	0	0	36,926
35-39	23,589	38,249	45,930	52,736	62,061	0	0	0	44,011
40-44	24,909	33,517	46,997	54,213	62,811	58,835	0	0	44,794
45-49	20,613	30,822	49,804	55,499	57,212	65,976	64,798	0	48,285
50-54	27,581	32,610	48,464	58,291	61,815	64,578	69,472	68,566	54,709
55-59	33,582	29,528	53,605	61,202	64,639	67,552	68,934	70,933	60,703
60-64	22,746	30,788	56,499	54,317	59,887	73,449	67,956	73,083	56,974
65+	2,762	6,624	31,897	60,834	63,691	66,321	67,284	78,631	33,051
ALL	23,094	32,878	46,514	55,874	61,149	66,289	68,934	70,605	46,618

**Prior Fiscal Year Earnings (In THOUSANDS) by Years of Service**

<u>Age</u>	<u>&lt;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>ALL</u>
ALL	8,452	43,267	46,142	27,825	22,075	19,356	13,994	19,628	200,737

**TABLE 4**  
**Total Plan**

**St. Paul Teachers Retirement Fund**

***SERVICE RETIREMENTS AS OF JUNE 30, 2002***

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u>&lt;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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	51	90	1	0	0	0	0	142
60-64	41	229	106	0	0	0	0	376
65-69	21	126	249	49	2	0	1	448
70-74	1	11	152	121	81	1	2	369
75-79	1	3	19	79	121	24	0	247
80-84	0	1	0	13	69	62	2	147
85+	0	0	0	3	9	48	95	155
ALL	115	460	527	265	282	135	100	1,884

**AVERAGE ANNUAL BENEFIT**

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u>&lt;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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	35,007	22,400	10,171	0	0	0	0	26,842
60-64	28,457	28,383	32,956	0	0	0	0	29,680
65-69	34,171	28,555	35,037	21,131	56,232	0	49,038	31,778
70-74	22,032	17,833	41,188	32,464	28,759	24,926	59,541	34,906
75-79	19,387	19,826	35,771	32,642	27,236	20,266	0	28,823
80-84	0	47,970	0	31,443	25,236	25,610	25,705	26,104
85+	0	0	0	45,612	24,407	18,217	20,654	20,600
ALL	32,270	26,994	36,372	30,520	27,299	22,026	21,817	29,850

**Total Annual Benefit (IN THOUSANDS) by Years RETIRED**

<u>Age</u>	<u>&lt;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>ALL</u>
ALL	3,711	12,417	19,168	8,088	7,698	2,974	2,182	56,238

**TABLE 5**  
**Total Plan**

**St. Paul Teachers Retirement Fund**

***DISABILITY RETIREMENTS AS OF JUNE 30, 2002***

<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	0	0	2	0	0	0	0	2
50-54	0	3	0	0	0	0	0	3
55-59	1	4	6	1	0	0	0	12
60-64	1	1	3	1	0	0	1	7
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	2	8	11	2	0	0	1	24

**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	0	0	3,442	0	0	0	0	3,442
50-54	0	16,816	0	0	0	0	0	16,816
55-59	29,933	46,471	31,715	53,058	0	0	0	38,264
60-64	47,947	52,117	29,124	45,346	0	0	16,693	35,639
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	38,940	36,056	25,868	49,202	0	0	16,693	31,915

**Total Annual Benefit (IN THOUSANDS) by Years DISABLED**

<u>Age</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>	<u>ALL</u>
ALL	78	288	285	98	0	0	17	766

TABLE 6  
Total Plan

St. Paul Teachers Retirement Fund  
**SURVIVORS AS OF JUNE 30, 2002**

Age	Years Since Death							ALL
	<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	3	0	0	0	0	7
50-54	0	0	1	2	0	1	1	5
55-59	3	2	1	4	0	0	0	10
60-64	0	2	10	5	3	1	0	21
65-69	1	3	3	12	6	2	1	28
70-74	0	1	2	9	16	3	3	34
75-79	0	1	1	8	21	11	1	43
80-84	0	0	0	1	8	18	13	40
85+	0	0	0	0	7	8	25	40
ALL	6	11	21	41	61	44	44	228

**AVERAGE ANNUAL BENEFIT**

Age	Years Since Death							ALL
	<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	15,561	7,767	4,992	0	0	0	0	8,805
50-54	0	0	32,175	28,362	0	16,748	3,350	21,800
55-59	13,185	22,932	32,168	20,605	0	0	0	20,001
60-64	0	29,941	30,349	24,814	14,437	10,000	0	25,750
65-69	37,203	39,833	31,650	30,804	22,930	19,980	11,864	28,954
70-74	0	28,368	54,322	26,738	24,461	15,142	15,371	25,311
75-79	0	49,492	1,281	34,611	27,872	20,189	17,007	26,792
80-84	0	0	0	67,636	18,487	14,979	16,134	17,372
85+	0	0	0	0	16,528	19,539	19,862	19,214
ALL	17,980	28,967	27,985	29,708	23,298	17,276	17,832	22,799

**Total Annual Benefit (IN THOUSANDS) by Years SINCE DEATH**

Age	<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>ALL</u>
ALL	108	319	588	1,218	1,421	760	785	5,198

**St. Paul Teachers' Retirement Fund**  
**Reconciliation of Members**

	<u>Actives</u>	<u>Terminated</u>		
		<u>Leave of Absence</u>	<u>Deferred Retirement</u>	<u>Other Non-Vested</u>
A. ON JUNE 30, 2001	4,671	253	324	1,671
B. ADDITIONS	578	41	169	410
C. DELETIONS				
1. Service Retirement	(111)	(1)	(4)	(8)
2. Disability	(2)	(1)	0	0
3. Death - Survivor	(6)	(1)	0	(1)
4. Death - Other	(3)	0	0	(1)
5. Terminated - Deferred	(110)	(59)	0	0
6. Terminated - Refund	(35)	(6)	(17)	(80)
7. Terminated - Other Non-Vested	(437)	(13)	0	(1)
8. Returned as active	121	(57)	(18)	(46)
9. Transferred to another fund	(359)	0	359	0
D. DATA ADJUSTMENTS	(1)	0	2	134
1. Vested	3,308	156	815	2,078
2. Non-Vested	998	0	0	0
E. TOTAL ON JUNE 30, 2002	4,306	156	815	2,078

	<u>Recipients</u>			
	<u>Retirement Annuitants</u>	<u>Disabled</u>	<u>Survivors</u>	<u>Other Beneficiary</u>
A. ON JUNE 30, 2001	1,807	23	220	0
B. ADDITIONS	124	3	22	0
C. DELETIONS				
1. Service Retirement	0	0	0	0
2. Death	(53)	(1)	(13)	0
3. Annuity Expired	0	0	0	0
4. Returned as Active	0	0	0	0
D. DATA ADJUSTMENTS	0	(1)	(1)	6
E. TOTAL ON JUNE 30, 2002	1,878	24	228	6

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

July 1, 2002

A. CURRENT ASSETS (Table 1; Line F.6)				\$	899,572
B. EXPECTED FUTURE ASSETS					
1. Present Value of Expected Future Statutory Supplemental Contributions				\$	178,126
2. Present Value of Future Normal Costs					211,043
3. Total Expected Future Assets					<u>389,169</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$	<u>1,288,741</u>
D. CURRENT BENEFIT OBLIGATIONS					
1. Benefit Recipients		Non-Vested	Vested		Total
a. Retirement Annuities			\$ 597,078	\$	597,078
b. Disability Benefits			7,163		7,163
c. Surviving Spouse and Child Benefits			45,650		45,650
2. Deferred Retirements			17,242		17,242
3. Former Members Without Vested Rights			4,454		4,454
4. Active Members					
a. Retirement Annuities *	\$	2,482	393,375		395,857
b. Disability Benefits		6,442	-		6,442
c. Surviving Spouse and Child Benefits		3,865	-		3,865
d. Deferred Retirements		270	9,296		9,566
e. Refund Liability Due to Death or Withdrawal		-	2,375		2,375
5. Total Current Benefit Obligations	\$	13,059	\$ 1,076,633	\$	<u>1,089,692</u>
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$	<u>262,651</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$	<u>1,352,343</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D.5 - A)				\$	190,120
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F - C)				\$	63,602

\* Includes members on leave of absence.

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

July 1, 2002

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
<b>A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)</b>			
1. Active Members			
a. Retirement Benefits *	\$ 638,260	\$ 180,916	\$ 457,344
b. Disability Benefits	11,797	5,655	6,142
c. Surviving Spouse and Child Benefits	7,483	3,566	3,917
d. Deferred Retirements	18,390	13,958	4,432
e. Refund Liability Due to Death or Withdrawal	4,826	6,948	(2,122)
f. Total	<u>\$ 680,756</u>	<u>\$ 211,043</u>	<u>\$ 469,713</u>
2. Deferred Retirements	\$ 17,242		\$ 17,242
3. Former Members Without Vested Rights	4,454		4,454
4. Annuitants in MPRIF	-		-
5. Annuitants Not in MPRIF	649,891		649,891
6. Total	<u>\$ 1,352,343</u>	<u>\$ 211,043</u>	<u>\$ 1,141,300</u>
<b>B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)</b>			
1. Actuarial Accrued Liability (A.6)			\$ 1,141,300
2. Current Assets (Table 1; Line F.6)			899,572
3. Unfunded Actuarial Accrued Liability (B.1 - B.2)			<u>\$ 241,728</u>
<b>C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE</b>			
1. Present Value of Future Payrolls Through the Amortization Date of June 30, 2021			2,951,894
2. Supplemental Contribution Rate (B.3 / C.1)			<u>8.19%</u>

\* Includes members on leave of absence.

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

June 30, 2002

A. UAAL AT BEGINNING OF YEAR	\$ 191,886
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$ 19,913
2. Contributions	(38,684)
3. Interest	16,359
4. Total	<u>\$ (2,412)</u>
C. EXPECTED UAAL AT END OF YEAR (A. + B.4)	\$ 189,474
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	(8,292)
6. Contribution Income *	-
7. Investment Income **	21,216
8. Mortality of Annuitants	(2,106)
9. Other Items	3,239
10. Total	<u>\$ 14,057</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.10)	\$ 203,531
F. CHANGE IN UAAL DUE TO PLAN AMENDMENTS	(2,045)
G. CHANGE IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	<u>40,242</u>
H. UAAL AT END OF YEAR (E + F + G)	<u><u>\$ 241,728</u></u>

\* Included in Item D.9.

\*\* Includes a gross investment loss of \$21,216, increased by \$0 used to provide next year's cost of living adjustments to retirees.

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

July 1, 2002

	Percent of Payroll	Dollar Amount
<b>A. STATUTORY CONTRIBUTIONS - CHAPTER 354A</b>		
1. Employee Contributions	5.92%	\$ 12,709
2. Employer Contributions	8.90%	19,093
3. Supplemental Contribution		
a. 1996 Legislation	0.86%	1,850
b. 1997 Legislation	1.38%	2,953
4. Administrative Expense Assessment	0.00%	-
5. Total	17.06%	\$ 36,605
<b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>		
1. Normal Cost		
a. Retirement Benefits	8.76%	\$ 18,790
b. Disability Benefits	0.27%	586
c. Surviving Spouse and Child Benefits	0.16%	337
d. Deferred Retirements	0.65%	1,401
e. Refund Liability Due to Death or Withdrawal	0.32%	690
f. Total	10.16%	\$ 21,804
2. Supplemental Contribution Amortization	8.19%	17,575
3. Allowance for Administrative Expenses	0.21%	451
4. Total	18.56%	\$ 39,830
<b>C. CONTRIBUTION SUFFICIENCY / (DEFICIENCY) (A.5 - B.4)</b>	(1.50%)	(3,225)
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 214,594

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

*(Please note that these are new assumptions effective July 1, 2002.)*

<b>Interest:</b>	Pre-Retirement:	8.50% per annum
	Post-Retirement:	8.50% per annum
<b>Salary Increases:</b>	Reported salary for prior fiscal year, with new hires annualized, increased to current fiscal year and annually for each future year according to the ultimate rate table below. During a 10-year select period, $0.3\% \times (10-T)$ where T is completed years of service is added to the ultimate rate.	
<b>Mortality:</b>	<u>Pre-Retirement:</u>	
	Male:	1983 Group Annuity Mortality Table male rates set back 7 years.
	Female:	1983 Group Annuity Mortality Table female rates set back 5 years.
	<u>Post-Retirement:</u>	
	Male:	1983 Group Annuity Mortality Table male rates set back 3 years.
	Female:	1983 Group Annuity Mortality Table female rates set back 1 years.
	<u>Post-Disability:</u>	
	Male:	1977 Railroad Retirement Board Mortality for Disabled Annuitants
	Female:	1977 Railroad Retirement Board Mortality for Disabled Annuitants
<b>Retirement Age:</b>	<u>Active Members:</u>	
	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.	
	<u>Deferred Members:</u>	
	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.	
	<u>Other Non-Vested Members:</u>	
	Return of contributions is assumed to occur immediately.	

<b>Separation:</b>	<p>Select and ultimate rates are based on recent plan experience. Ultimate rates after the third year are shown in the rate table. Select rates are as follows:</p> <table> <tr> <td>First Year</td><td>40%</td></tr> <tr> <td>Second Year</td><td>10%</td></tr> <tr> <td>Third Year</td><td>6%</td></tr> </table>	First Year	40%	Second Year	10%	Third Year	6%						
First Year	40%												
Second Year	10%												
Third Year	6%												
<b>Disability:</b>	Graded rates shown in the rate table.												
<b>Allowance for Combined Service Annuity:</b>	7.0% load on liabilities for active members and 30% load on liabilities for former Members.												
<b>Administrative Expenses:</b>	Prior year administrative expenses (excluding investment expenses) expressed as a percentage of prior year payroll.												
<b>Return of Contributions:</b>	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.												
<b>Family Composition:</b>	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.												
<b>Social Security:</b>	N/A												
<b>Benefit Increases After Retirement:</b>	2.0% per annum												
<b>Special Consideration:</b>	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.												
<b>Optional Benefit Forms:</b>	<p>Married Members are assumed to elect the following forms of benefit:</p> <table> <tr> <td>Males:</td><td>45% elect life annuity option</td></tr> <tr> <td></td><td>10% elect 50% J&amp;S option</td></tr> <tr> <td></td><td>45% elect 100% J&amp;S option</td></tr> <tr> <td>Females:</td><td>80% elect life annuity option</td></tr> <tr> <td></td><td>10% elect 50% J&amp;S option</td></tr> <tr> <td></td><td>10% elect 100% J&amp;S option</td></tr> </table>	Males:	45% elect life annuity option		10% elect 50% J&S option		45% elect 100% J&S option	Females:	80% elect life annuity option		10% elect 50% J&S option		10% elect 100% J&S option
Males:	45% elect life annuity option												
	10% elect 50% J&S option												
	45% elect 100% J&S option												
Females:	80% elect life annuity option												
	10% elect 50% J&S option												
	10% elect 100% J&S option												

<b><i>Actuarial Cost Method:</i></b>	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.
<b><i>Asset Valuation Method:</i></b>	Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less of a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during that fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.
<b><i>Payment on the Unfunded Actuarial Accrued Liability:</i></b>	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.
<b><i>Missing Data:</i></b>	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 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 \$54,804 for 2001/2002 terminations and is decreased by 6.5% for each year that actual termination precedes July 1, 2002.

***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>
06/30/03+	1,050	800

1997 Legislation:

Annual supplemental contributions of \$2,953,000 made on October 1.

**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>Age</u>	<u>Withdrawal</u>	<u>Disability</u>
20	600	2	45	125	6
21	570	2	46	120	6
22	540	2	47	115	6
23	510	2	48	110	6
24	480	2	49	105	6
25	450	2	50	100	12
26	420	2	51	90	12
27	390	2	52	80	12
28	360	2	53	70	12
29	330	2	54	60	12
30	300	3	55	50	24
31	285	3	56	40	24
32	270	3	57	30	24
33	255	3	58	20	24
34	240	3	59	10	24
35	225	3	60	0	48
36	210	3	61	0	48
37	195	3	62	0	48
38	180	3	63	0	48
39	165	3	64	0	48
40	150	4	65	0	0
41	145	4	66	0	0
42	140	4	67	0	0
43	135	4	68	0	0
44	130	4	69	0	0

TABLE 12  
(Continued)

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

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

<u>Age</u>	<u>Pre-Retirement Mortality</u>		<u>Post-Retirement Mortality</u>		<u>Post-Disability Mortality</u>	
	<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	3	2	4	2	272	272
24	3	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	2	5	3	272	272
29	4	2	5	3	272	272
30	4	3	5	3	272	272
31	4	3	5	3	272	272
32	5	3	6	4	272	272
33	5	3	6	4	272	272
34	5	3	6	4	273	273
35	5	3	7	4	273	273
36	6	4	7	5	273	273
37	6	4	8	5	273	273
38	6	4	9	5	273	273
39	7	4	9	6	273	273
40	7	5	10	6	273	273
41	8	5	10	7	273	273
42	9	5	11	7	273	273
43	9	6	12	8	274	274
44	10	6	14	8	274	274

**TABLE 12**  
(Continued)

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

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

<u>Age</u>	<u>Pre-Retirement Mortality</u>		<u>Post-Retirement Mortality</u>		<u>Post-Disability Mortality</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
45	10	7	15	9	274	274
46	11	7	17	10	275	275
47	12	8	19	11	276	276
48	14	8	22	12	279	279
49	15	9	25	14	283	283
50	17	10	28	15	289	289
51	19	11	31	16	298	298
52	22	12	35	18	310	310
53	25	14	39	19	327	327
54	28	15	43	21	348	348
55	31	16	48	23	371	371
56	35	18	52	25	395	395
57	39	19	57	28	417	417
58	43	21	61	31	437	437
59	48	23	66	34	455	455
60	52	25	71	38	473	473
61	57	28	77	42	494	494
62	61	31	84	47	516	516
63	66	34	92	52	541	541
64	71	38	101	58	569	569
65	77	42	111	64	598	598
66	84	47	124	71	628	628
67	92	52	139	78	658	658
68	101	58	156	87	687	687
69	111	64	176	98	716	716

**TABLE 12**  
(Continued)

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

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

<b>Age</b>	<b>Basic Members Eligible for Rule of 90 Provision</b>	<b>Basic Members Not Eligible for Rule of 90 Provision</b>	<b>Coordinated Members Eligible for Rule of 90 Provision</b>	<b>Coordinated Members Not Eligible for Rule of 90 Provision</b>
<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

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

*Annual Salary Increases*

Ultimate Rate of Annual Salary Increases		Ultimate Rate of Annual Salary Increases	
Age		Age	
<22	6.90%	45	5.75%
23	6.85	46	5.70
24	6.80	47	5.65
		48	5.60
25	6.75	49	5.55
26	6.70		
27	6.65	50	5.50
28	6.60	51	5.45
29	6.55	52	5.40
		53	5.35
30	6.50	54	5.30
31	6.45		
32	6.40	55	5.25
33	6.35	56	5.20
34	6.30	57	5.15
		58	5.10
35	6.25	59	5.05
36	6.20		
37	6.15	60 & Over	5.00
38	6.10		
39	6.05		
40	6.00		
41	5.95		
42	5.90		
43	5.85		
44	5.80		

TABLE 3A  
Basic Plan

St. Paul Teachers Retirement Fund  
**ACTIVE MEMBERS AS OF JUNE 30, 2002**

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u>&lt;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	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	4	16	6	0	26
50-54	0	0	0	0	7	27	89	67	190
55-59	0	0	0	0	2	8	59	167	236
60-64	0	0	0	0	0	3	15	23	41
65+	0	0	0	0	0	0	2	3	5
ALL	0	0	0	0	13	54	171	260	498

**AVERAGE ANNUAL EARNINGS**

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u>&lt;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	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	45,247	66,344	64,358	0	62,640
50-54	0	0	0	0	55,910	64,665	69,820	68,010	67,937
55-59	0	0	0	0	67,206	61,721	69,316	70,945	70,193
60-64	0	0	0	0	0	81,454	66,608	73,844	71,754
65+	0	0	0	0	0	0	67,284	78,631	74,092
ALL	0	0	0	0	54,367	65,659	69,143	70,534	69,105

**Prior Fiscal Year Earnings (In THOUSANDS) by Years of Service**

<u>Age</u>	<u>&lt;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>ALL</u>
ALL	0	0	0	0	707	3,546	11,824	18,339	34,414

**TABLE 4A**  
**Basic Plan**

**St. Paul Teachers Retirement Fund**

***SERVICE RETIREMENTS AS OF JUNE 30, 2002***

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u>&lt;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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	44	69	1	0	0	0	0	114
60-64	19	177	90	0	0	0	0	286
65-69	9	82	213	48	2	0	1	355
70-74	0	3	122	111	81	1	2	320
75-79	0	1	15	69	118	23	0	226
80-84	0	1	0	12	66	61	2	142
85+	0	0	0	3	9	46	95	153
ALL	72	333	441	243	276	131	100	1,596

**AVERAGE ANNUAL BENEFIT**

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u>&lt;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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	37,863	26,345	10,171	0	0	0	0	30,649
60-64	42,972	32,650	36,029	0	0	0	0	34,399
65-69	56,410	38,763	38,627	21,459	56,232	0	49,038	36,917
70-74	0	34,045	47,655	34,784	28,759	24,926	59,541	38,283
75-79	0	32,964	39,248	36,015	27,782	20,675	0	30,357
80-84	0	47,970	0	33,837	26,231	25,675	25,705	26,781
85+	0	0	0	45,612	24,407	18,899	20,654	20,837
ALL	41,530	32,909	40,551	32,588	27,794	22,412	21,817	32,920

**Total Annual Benefit (IN THOUSANDS) by Years RETIRED**

<u>Age</u>	<u>&lt;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>ALL</u>
ALL	2,990	10,959	17,883	7,919	7,671	2,936	2,182	52,539

TABLE 5A  
Basic Plan

St. Paul Teachers Retirement Fund

**DISABILITY RETIREMENTS AS OF JUNE 30, 2002**

Age	Years Disabled							ALL
	<u>&lt;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	0	0	0	0	0	0	0	0
50-54	0	1	0	0	0	0	0	1
55-59	0	4	3	1	0	0	0	8
60-64	1	1	1	1	0	0	1	5
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	1	6	4	2	0	0	1	14

**AVERAGE ANNUAL BENEFIT**

Age	Years Disabled							ALL
	<u>&lt;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	0	0	0	0	0	0	0	0
50-54	0	36,632	0	0	0	0	0	36,632
55-59	0	46,471	50,745	53,058	0	0	0	48,897
60-64	47,947	52,117	58,620	45,346	0	0	16,693	44,144
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	47,947	45,772	52,714	49,202	0	0	16,693	46,324

**Total Annual Benefit (IN THOUSANDS) by Years DISABLED**

Age	<u>&lt;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>ALL</u>
ALL	48	275	211	98	0	0	17	649

TABLE 6A  
Basic Plan

St. Paul Teachers Retirement Fund  
***SURVIVORS AS OF JUNE 30, 2002***

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u>&lt;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	1	1	0	0	0	0	4
50-54	0	0	1	2	0	1	1	5
55-59	1	0	1	4	0	0	0	6
60-64	0	1	10	5	3	1	0	20
65-69	0	3	3	12	6	2	1	27
70-74	0	1	2	8	16	3	3	33
75-79	0	1	0	8	21	11	1	42
80-84	0	0	0	1	8	18	13	40
85+	0	0	0	0	7	8	25	40
ALL	3	7	18	40	61	44	44	217

**AVERAGE ANNUAL BENEFIT**

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u>&lt;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	15,561	4,245	9,625	0	0	0	0	11,248
50-54	0	0	32,175	28,362	0	16,748	3,350	21,800
55-59	18,837	0	32,168	20,605	0	0	0	22,237
60-64	0	36,521	30,349	24,814	14,437	10,000	0	25,870
65-69	0	39,833	31,650	30,804	22,930	19,980	11,864	28,648
70-74	0	28,368	54,322	29,210	24,461	15,142	15,371	25,867
75-79	0	49,492	0	34,611	27,872	20,189	17,007	27,400
80-84	0	0	0	67,636	18,487	14,979	16,134	17,372
85+	0	0	0	0	16,528	19,539	19,862	19,214
ALL	16,653	34,018	32,281	30,277	23,298	17,276	17,832	23,254

**Total Annual Benefit (IN THOUSANDS) by Years SINCE DEATH**

<u>Age</u>	<u>&lt;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>ALL</u>
ALL	50	238	581	1,211	1,421	760	785	5,046

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

July 1, 2002

	Percent of Payroll	Dollar Amount
<b>A. STATUTORY CONTRIBUTIONS - CHAPTER 354A</b>		
1. Employee Contributions	8.00%	\$ 2,899
2. Employer Contributions	11.64%	4,218
3. Supplemental Contribution		
a. 1996 Legislation	0.86%	312
b. 1997 Legislation	1.38%	500
4. Administrative Expense Assessment	0.00%	-
5. Total	21.88%	\$ 7,929
<b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>		
1. Normal Cost		
a. Retirement Benefits	11.14%	\$ 4,038
b. Disability Benefits	0.48%	174
c. Surviving Spouse and Child Benefits	0.16%	59
d. Deferred Retirements	1.15%	415
e. Refund Liability Due to Death or Withdrawal	0.67%	244
f. Total	13.60%	\$ 4,930
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 36,239

**St. Paul Teachers' Retirement Fund**  
***Summary of Plan Provisions***

*This summary of provisions reflects the interpretation of applicable Statutes by the Commission Actuary for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with any Minnesota Statutes.*

**GENERAL**

<i>Eligibility:</i>	A teacher who is employed in a public school district, other than a charter school, 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:***

*Eligibility:*

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.

*Amount:*

The greater of:

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.

or

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.

*Form of Payment:*

Life annuity.

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

## 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>	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.
<i>Form of Payment:</i>	Life annuity.
<i>Benefit Increases:</i>	Same as for retirement.

### *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>	Benefit of 15% of B.A. salary to spouse plus 25% of B.A. salary to each eligible child (maximum of 2). B.A. salary is the maximum salary payable to a teacher holding a B.A. degree.

Spouse's benefits cease upon 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).

***Survivor's Benefits:***

*Eligibility:* Active or retired Member with 5 years of St. Paul service. A surviving spouse must have been married to the Member for 3 years at the time of his death or retirement, whichever occurs first.

*Amount:* Survivor's payment of the 100% joint and survivor benefit earned by the Member to the date of his death or his retirement, whichever occurs first.

*Benefit Increases:* Same as for a retired person if payments have been made over 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:* 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 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.

***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 Plan**

**St. Paul Teachers Retirement Fund**  
**ACTIVE MEMBERS AS OF JUNE 30, 2002**

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u>&lt;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	59	41	1	0	0	0	0	0	101
25-29	78	320	48	1	0	0	0	0	447
30-34	54	276	249	6	0	0	0	0	585
35-39	31	149	181	96	17	0	0	0	474
40-44	39	162	137	101	71	5	0	0	515
45-49	50	125	130	92	96	79	2	0	574
50-54	30	129	134	106	81	72	15	4	571
55-59	16	69	78	67	59	60	10	12	371
60-64	6	28	28	27	19	18	5	2	133
65+	3	17	6	2	5	4	0	0	37
ALL	366	1,316	992	498	348	238	32	18	3,808

**AVERAGE ANNUAL EARNINGS**

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u>&lt;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	17,109	27,231	22,967	0	0	0	0	0	21,276
25-29	23,238	32,912	40,243	30,944	0	0	0	0	32,007
30-34	25,696	34,127	42,218	47,100	0	0	0	0	36,926
35-39	23,589	38,249	45,930	52,736	62,061	0	0	0	44,011
40-44	24,909	33,517	46,997	54,213	62,811	58,835	0	0	44,794
45-49	20,613	30,822	49,804	55,499	57,711	65,901	66,119	0	47,635
50-54	27,581	32,610	48,464	58,291	62,325	64,545	67,408	77,873	50,307
55-59	33,582	29,528	53,605	61,202	64,552	68,330	66,677	70,769	54,665
60-64	22,746	30,788	56,499	54,317	59,887	72,115	71,999	64,331	52,418
65+	2,762	6,624	31,897	60,834	63,691	66,321	0	0	27,505
ALL	23,094	32,878	46,514	55,874	61,403	66,432	67,816	71,632	43,677

**Prior Fiscal Year Earnings (In THOUSANDS) by Years of Service**

<u>Age</u>	<u>&lt;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>ALL</u>
ALL	8,452	43,267	46,142	27,825	21,368	15,811	2,170	1,289	166,322

TABLE 4B  
Coordinated Plan

St. Paul Teachers Retirement Fund

**SERVICE RETIREMENTS AS OF JUNE 30, 2002**

Age	Years Retired							ALL
	<u>&lt;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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	7	21	0	0	0	0	0	28
60-64	22	52	16	0	0	0	0	90
65-69	12	44	36	1	0	0	0	93
70-74	1	8	30	10	0	0	0	49
75-79	1	2	4	10	3	1	0	21
80-84	0	0	0	1	3	1	0	5
85+	0	0	0	0	0	2	0	2
ALL	43	127	86	22	6	4	0	288

**AVERAGE ANNUAL BENEFIT**

Age	Years Retired							ALL
	<u>&lt;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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	17,051	9,437	0	0	0	0	0	11,341
60-64	15,922	13,858	15,669	0	0	0	0	14,684
65-69	17,492	9,530	13,793	5,371	0	0	0	12,163
70-74	22,032	11,754	14,889	6,715	0	0	0	12,855
75-79	19,387	13,258	22,734	9,365	5,743	10,863	0	12,314
80-84	0	0	0	2,713	3,339	21,664	0	6,879
85+	0	0	0	0	0	2,510	0	2,510
ALL	16,767	11,485	14,940	7,677	4,541	9,387	0	12,841

**Total Annual Benefit (IN THOUSANDS) by Years RETIRED**

Age	<u>&lt;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>ALL</u>
ALL	721	1,459	1,285	169	27	38	0	3,698

TABLE 5B  
Coordinated Plan

St. Paul Teachers Retirement Fund

**DISABILITY RETIREMENTS AS OF JUNE 30, 2002**

<u>Age</u>	<u>Years Disabled</u>							<u>ALL</u>
	<u>&lt;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	0	0	2	0	0	0	0	2
50-54	0	2	0	0	0	0	0	2
55-59	1	0	3	0	0	0	0	4
60-64	0	0	2	0	0	0	0	2
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	1	2	7	0	0	0	0	10

**AVERAGE ANNUAL BENEFIT**

<u>Age</u>	<u>Years Disabled</u>							<u>ALL</u>
	<u>&lt;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	0	0	3,442	0	0	0	0	3,442
50-54	0	6,908	0	0	0	0	0	6,908
55-59	29,933	0	12,685	0	0	0	0	16,997
60-64	0	0	14,376	0	0	0	0	14,376
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	29,933	6,908	10,527	0	0	0	0	11,744

**Total Annual Benefit (IN THOUSANDS) by Years DISABLED**

<u>Age</u>	<u>&lt;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>ALL</u>
ALL	30	14	74	0	0	0	0	117

TABLE 6B  
Coordinated Plan

St. Paul Teachers Retirement Fund  
***SURVIVORS AS OF JUNE 30, 2002***

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u>&lt;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	0	1	2	0	0	0	0	3
50-54	0	0	0	0	0	0	0	0
55-59	2	2	0	0	0	0	0	4
60-64	0	1	0	0	0	0	0	1
65-69	1	0	0	0	0	0	0	1
70-74	0	0	0	1	0	0	0	1
75-79	0	0	1	0	0	0	0	1
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	3	4	3	1	0	0	0	11

**AVERAGE ANNUAL BENEFIT**

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u>&lt;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	0	11,289	2,676	0	0	0	0	5,547
50-54	0	0	0	0	0	0	0	0
55-59	10,359	22,932	0	0	0	0	0	16,646
60-64	0	23,362	0	0	0	0	0	23,362
65-69	37,203	0	0	0	0	0	0	37,203
70-74	0	0	0	6,963	0	0	0	6,963
75-79	0	0	1,281	0	0	0	0	1,281
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	19,307	20,128	2,211	6,963	0	0	0	13,821

**Total Annual Benefit (IN THOUSANDS) by Years SINCE DEATH**

<u>Age</u>	<u>&lt;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>ALL</u>
ALL	58	81	7	7	0	0	0	152

COORDINATED

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

July 1, 2002

	Percent of Payroll	Dollar Amount
<b>A. STATUTORY CONTRIBUTIONS - CHAPTER 354A</b>		
1. Employee Contributions	5.50%	\$ 9,810
2. Employer Contributions	8.34%	14,875
3. Supplemental Contribution		
a. 1996 Legislation	0.86%	1,538
b. 1997 Legislation	1.38%	2,453
4. Administrative Expense Assessment	0.00%	-
5. Total	16.08%	\$ 28,676
<b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>		
1. Normal Cost		
a. Retirement Benefits	8.27%	\$ 14,752
b. Disability Benefits	0.23%	412
c. Surviving Spouse and Child Benefits	0.16%	278
d. Deferred Retirements	0.55%	986
e. Refund Liability Due to Death or Withdrawal	0.25%	446
f. Total	9.46%	\$ 16,874
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 178,355

**St. Paul Teachers' Retirement Fund**  
***Summary of Plan Provisions***

*This summary of provisions reflects the interpretation of applicable Statutes by the Commission Actuary for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with any Minnesota Statutes.*

**GENERAL**

<i>Eligibility:</i>	A teacher who is employed in a public school district, other than a charter school, 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.

**TABLE 13B**  
**COORDINATED**  
*(Continued)*

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.

*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 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:***

<i>Eligibility:</i>	Normal retirement age with continued disability.
<i>Amount:</i>	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.
<i>Benefit Increases:</i>	Same as for retirement.

**DEATH**

***Surviving Spouse Annuity:***

<i>Eligibility:</i>	<p>Any active Member who dies with 3 years of Allowable Service prior to retirement or disability benefits commence.</p> <p>Any former Member who dies before retirement or disability benefits commence.</p>
<i>Amount:</i>	<p>Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated.</p> <p>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.</p> <p>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.</p>

*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.

***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, 2002

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	805,066	248,660	69.11%	151,363	164.28%
07/01/98	625,053	861,584	236,531	72.55%	168,564	140.32%
07/01/99	704,233	938,847	234,614	75.01%	178,254	131.62%
07/01/00	801,823	998,253	196,430	80.32%	187,950	104.51%
07/01/01	869,045	1,060,931	191,886	81.91%	202,915	94.56%
07/01/02	899,572	1,141,300	241,728	78.82%	201,456	119.99%

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

July 1, 2002

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	77.95%
1995	18.63%	139,175	8,788	17,140	13,084	76.34%
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%
1998	20.35%	168,564	11,057	23,246	21,702	93.36%
1999	18.82%	178,254	11,649	21,898	21,066	96.19%
2000	18.09%	187,950	13,184	20,816	22,622	108.69%
2001	16.57%	202,915	13,170	20,453	23,569	115.28%
2002	15.81%	201,456	14,468	17,382	24,216	139.32%

\*Includes contributions from other sources (if applicable)