

Teachers' Retirement Fund Association
St. Paul, Minnesota

ACTUARIAL VALUATION REPORT
as of
December 31, 1975

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STATE OF MINNESOTA

Teachers' Retirement Fund Association
St. Paul, Minnesota

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COMPENSATION & CAPITAL
INCORPORATED

125 SOUTH WACKER DRIVE

CHICAGO, ILLINOIS 60606

TELEPHONE 312 332-4420

April 23, 1976

Board of Trustees
St. Paul Teachers' Retirement Fund Association
555 Wabasha Street, Room 303
St. Paul, Minnesota 55102

Gentlemen:

In accordance with your request, we have made an actuarial valuation of the St. Paul Teachers' Retirement Fund Association for the year ended December 31, 1975, in order to determine the adequacy of the contributions being made to that system and to prepare the financial and actuarial reports as required by the laws of the State of Minnesota.

~~The results of our analysis are set forth in the following report.~~ The basic financial and employee data are those submitted to us by the Association office; the summaries and actuarial figures are those prepared by us from such data.

On the basis of the foregoing, and the assumptions indicated herein, we hereby certify that, to the best of our knowledge and belief, the attached statements are true and correct.

Respectfully submitted,

Davis H. Roenisch
Fellow, ~~Society of Actuaries~~
Enrolled Actuary #174

DHR:tmk

Teachers' Retirement Fund Association
St. Paul, Minnesota

COMMENTS

This report sets forth the information on the Teachers' Retirement Fund Association of the City of St. Paul, Minnesota required by law for the legislature based on the annual actuarial valuation.

These figures have been prepared in accordance with the requirements of the law under the supervision of an approved actuary. Included in these requirements are the use of the Entry Age Normal Cost Method, anticipated salary increases of 3-1/2% per year, and an assumed interest of 5% per year.

The other assumptions have been chosen to reflect the actual experience of the Association. This experience has been reviewed for the four year period ending December 31, 1975 with the results set forth in Appendix A. As expected the actual results vary from the assumption giving rise to both experience gains and losses. In the aggregate the assumptions continue to be reasonable although if the 1975 indication of an earlier average retirement age persists the present assumption of age 65 at retirement will have to be lowered and this would significantly increase the actuarial requirements of the plan.

The actuarial valuation measures all aspects of the St. Paul Teachers' Fund in accordance with the plan described in the section of the report titled "Summary of the Plan".

Exhibit 4 shows the present value benefits for past and future service of active members, and current benefits being received by retirees (and beneficiaries).

Exhibit 4 also indicates an amount of Unfunded Accumulated Contribution Requirement of \$75,064,254. This amount represents an increase of \$3,191,092. The primary reasons for the increase are estimated in Exhibit 7.

Exhibit 5 restates the dollar amount of obligation in Exhibit 4 as percentages based on current payroll of active members. The resulting percentage total rate requirement may then be compared with the statutory contribution rate to ascertain the actuarial balance of the Fund.

During 1975, the legislature transferred the financing of the Association program to the state on the basis that the St. Paul Teachers would receive the same support as given the Minnesota Teachers Retirement Association. At the same time the unfunded cost of living increases being paid for

by the City of St. Paul out of a special levy were required to be added to the Association's obligation and funded out of the state's contribution.

Not only are the demographic characteristics (age, sex distribution, turnover pattern, historical growth, salary levels, degree of maturity of the group, etc) of the state teachers substantially different from the St. Paul group but the benefit structure is quite different, being coordinated with Social Security. As a result the actuarially required contributions to the Minnesota Teachers Retirement Association would be expected to have no relationship to the requirements of the St. Paul Teachers program.

This has proven to be the case. Primarily due to the inadequacy of the TRA levy in the St. Paul context, the deficit between the actuarial requirement and the contribution has approximately doubled from 2.67% to 5.40% (Ex. 5) and the Association program is no longer in reasonable actuarial balance by any standard. Under these conditions, we believe that a review of the financing arrangement is called for, with particular emphasis on developing contributions that are reflective of the benefits and the employment experience of the St. Paul Teachers rather than determining them on the basis of the experience of an outside group.

Exhibit 5(a) was included in the report at the request of Mr. Lyle Farmer. This exhibit also restates the dollar obligations of Exhibit 4 as percentages based on the current payroll of active members but assumes that the amount to be amortized will be amortized by January 1, 2006 or over a future 30-year period.

FINANCIAL EXHIBITS

LEGISLATIVE REFERENCE LIBRARY
STATE OF MINNESOTA

Teachers' Retirement Fund Association
St. Paul, Minnesota

FINANCIAL BALANCE SHEET
(December 31, 1975)

ASSETS

Cash		\$ 18,975.44
Receivables		
Interest	\$489,203.77	
Dividends	30,817.89	
Employer Contribution	<u>607,743.97</u>	1,127,765.63
Short Term Notes, at Discounted Value		6,850,107.78
Bonds, at Amortized Cost		24,735,187.97
Stocks, at Cost		12,256,906.35
Deferred Yield Adjustment Account		1,847,156.40
Furniture and Equipment, Less Depreciation		2,883.89
Administrative Expenses Payable		<u>(5,438.50)</u>
<u>Total Assets</u>		<u>\$46,833,544.96</u>
Members Accumulated Contributions (without interest)		\$20,943,910.79
Administration Expenses 1975 -	\$111,382.87	

Teachers' Retirement Fund Association
St. Paul, Minnesota

SOURCES AND USES OF FUNDS

SOURCES

Cash Balance January 1, 1975		\$ 80,570.07
Income from Taxes:		
City of St. Paul	\$2,104,630.46	
State of Minnesota	1,488,215.19	3,592,845.65
Income from Members:		
Payroll Deductions	\$3,305,370.41	
Prior Service	170,386.98	
Return of Refunds	132.00	3,475,889.39
Income from Investments:		
Interest	\$2,331,414.10	
Dividends	304,114.27	
Miscellaneous	2,161.53	2,637,689.90
Investments Sold		37,159,584.02
<u>Total</u>		<u>\$46,946,579.03</u>

USES

Pensions Paid:		
Retirement	\$3,630,933.49	
Survivor	72,808.30	
Children	52,050.60	
Disability	61,580.00	\$ 3,817,372.39
Refunds of Dues		\$ 313,912.75
Administrative Expenses:		
Salaries	\$ 59,131.00	
Office Expense	9,153.95	
Legal and Actuarial Services	8,119.00	
Taxes, Insurance and Members Dues	4,789.23	
Delegate Expense	3,300.00	
Data Processing	4,692.00	
Investment Counsel Service	21,328.89	\$ 110,514.07
Refund - Investment Received Not Earned		23,251.31
Investments Purchased		42,662,553.07
Sub-Total		46,927,603.59
Cash Balance December 31, 1975		18,975.44
<u>Total</u>		<u>\$46,946,579.03</u>

Teachers' Retirement Fund Association
St. Paul, Minnesota

RECONCILIATION OF ASSET BALANCES
(December 31, 1975)

Asset Balance - December 31, 1974		\$40,763,218.70
Additions:		
Taxes	\$4,200,589.62	
From Member Contributions	3,462,292.29	
Investment Income	2,606,616.43	
Net Gain on Sale of Stock	<u>27,835.23</u>	<u>10,297,333.57</u>
		<u>\$51,060,552.27</u>
Deductions:		
Benefit Payments	\$3,815,308.79	
Refunds	300,315.65	
Administrative Expenses	<u>111,382.87</u>	<u>\$ 4,227,007.31</u>
Asset Balance, December 31, 1975		<u>\$46,833,544.96</u>

Teachers' Retirement Fund Association
St. Paul, Minnesota

ACTUARIAL REQUIREMENTS - 5%

Teachers' Retirement Fund Association
St. Paul, Minnesota

FINANCIAL BALANCE SHEET
(December 31, 1975)

Present Value of Benefits Expected to be Paid by Retirement Fund

To Active Teachers for	
Retirement	\$112,120,928
Disability	9,156,286
Survivorship	10,436,568
Refund	<u>4,933,735</u>
Total	\$136,647,517
To Vested Teachers	108,797
To Teachers on Leave	410,262
To Former Teachers without Vested Rights	39,110

To Teachers and Beneficiaries
Now Receiving Benefits for

	<u>Original Pension</u>	<u>Increase Under Par. 9</u>	
Retirement	\$ 31,450,579	\$ 1,780,011	
Disability	888,306	32,774	
Survivorship	<u>967,525</u>	<u>164,042</u>	
Total	<u>\$ 33,306,410</u>	<u>\$ 1,976,827</u>	<u>\$ 35,283,237</u>

Total Value of Benefits	\$172,488,923
Less Value of Expected Future Contributions*	<u>50,591,124</u>
Accumulated Contribution Requirement Assuming Full Funding During Prior Service Period	\$121,897,799
Assets on Hand	<u>46,833,545</u>
Accumulated Contribution Requirement to be Amortized by 1997	<u>\$ 75,064,254</u>

* As Determined by the Entry Age Normal Cost Method.

Teachers' Retirement Fund Association
St. Paul, Minnesota

ACTUARIAL REQUIREMENTS
(December 31, 1975)

TOTAL REQUIREMENTS

Expected Future Contributions on Behalf of Active Teachers	\$ 50,591,124
Accumulated Contribution Assuming Full Funding During Prior Service Period	<u>121,897,799</u>
Total - Value of All Benefits Payable to Present Members	\$172,488,923

AMORTIZATION RATE REQUIREMENT

Accumulated Contribution Requirement	\$121,897,799	
Assets on Hand	<u>46,833,545</u>	
Amount to be Amortized	\$ 75,064,254	
Contribution Requirement for Amortization Period of 22 Years	\$ 5,702,670	
Current Payroll	\$ 42,262,561	
Amortization Rate Requirement		13.4934%

LEVEL CONTRIBUTION (ENTRY AGE NORMAL) RATE REQUIREMENT

Expected Future Contributions on Behalf of Active Teachers	\$ 50,591,124	
Expected Future Payroll	460,321,900	
Total Entry age Normal Rate Requirement	10.9904%	
Teacher Contribution Rate	<u>8.0000</u>	
Employer Entry Age Normal Rate Requirement		2.9904%

ACTUARIAL BALANCE

Employer Statutory Contribution Rate*		11.3434%
Rate Requirements		
Amortization Rate Requirement	13.4934%	
Entry Age Normal Rate Requirement	2.9904	
Expenses Rate Requirement	<u>.2635</u>	
Total Rate Requirement		16.7473%
Deficit of Statutory Rate over Rate Requirement		(5.4039%)

* Rate established by Minnesota Teachers Retirement Association.

Teachers' Retirement Fund Association
St. Paul, Minnesota

ACTUARIAL REQUIREMENTS
(December 31, 1975)

TOTAL REQUIREMENTS

Expected Future Contributions on Behalf of Active Teachers	\$ 50,591,124
Accumulated Contribution Assuming Full Funding During Prior Service Period	<u>121,897,799</u>
Total - Value of All Benefits Payable to Present Members	\$172,488,923

AMORTIZATION RATE REQUIREMENT

Accumulated Contribution Requirement	\$121,897,799	
Assets on Hand	<u>46,833,545</u>	
Amount to be Amortized	\$ 75,064,254	
Contribution Requirement for Amortization Period of 30 Years	\$ 4,883,037	
Current Payroll	\$ 42,262,561	
Amortization Rate Requirement		11.5540%

LEVEL CONTRIBUTION (ENTRY AGE NORMAL) RATE REQUIREMENT

Expected Future Contributions on Behalf of Active Teachers	\$ 50,591,124	
Expected Future Payroll	460,321,900	
Total Entry age Normal Rate Requirement	10.9904%	
Teacher Contribution Rate	<u>8.0000</u>	
Employer Entry Age Normal Rate Requirement		2.9904%

ACTUARIAL BALANCE

Employer Statutory Contribution Rate*		11.3434%
Rate Requirements		
Amortization Rate Requirement	11.5540%	
Entry Age Normal Rate Requirement	2.9904	
Expenses Rate Requirement	<u>.2635</u>	
Total Rate Requirement		14.8079%
Deficit of Statutory Rate over Rate Requirement		(3.4645%)

* Rate established by Minnesota Teachers Retirement Association.

Teachers' Retirement Fund Association
St. Paul, Minnesota

STATEMENT OF REVENUE, EXPENDITURES, CHANGES IN
UNFUNDED ACCUMULATED CONTRIBUTION REQUIREMENT
(Year Ended December 31, 1975)

Revenue:

Employer Contributions	\$4,200,589.62	
Employee Contributions	3,462,292.29	
Net Investment Income	<u>2,634,451.66</u>	
Total Revenue		\$10,297,333.57

Expenditure:

Benefits	\$3,815,308.79	
Refund of Dues	300,315.65	
Administrative Expense	<u>111,382.87</u>	
Total Expenditures		<u>\$ 4,227,007.31</u>

Increase in Assets (1975)	\$ 6,070,326.26
Increase in Accumulated Contribution Requirement	<u>9,261,418.00</u>
Increase (Decrease) in Unfunded Accumulated Contribution Requirement	<u>\$ 3,191,091.74</u>

Teachers' Retirement Fund Association
St. Paul, Minnesota

INCREASE (DECREASE) IN UNFUNDED REQUIREMENTS

Unfunded	December 31, 1974	\$71,873,162
Unfunded	December 31, 1975	<u>75,064,254</u>
Increase (Decrease)		<u>\$ 3,191,092</u>

ALLOCATION OF INCREASE (DECREASE) IN UNFUNDED REQUIREMENT

(1) Change in (Par. 9 Increase)	\$ 1,976,827
(2) Change in Actuarial Assumptions	-
(3) Net Actuarial Loss (Gain)	1,832,779
(4) Principal of Unfunded Anticipated in Total Rate Requirement	\$1,734,803
Deficiency in Total Rate Requirement over Statutory Rate	<u>1,116,289</u>
Decrease Due to Amortization	<u>(618,514)</u>
Total Increase (Decrease)	<u>\$ 3,191,092</u>

ALLOCATION OF NET ACTUARIAL LOSS (GAIN)

Increase in Average Earnings	\$ 1,664,041
Investment Income in excess of 5%: Loss (Gain)	(444,533)
Decline in the Size and Aging of the Group	(513,131)
Decline in entry age Normal Rate	940,720
Experience Variation: Loss (Gain)	<u>185,682</u>
<u>Total Increases</u>	<u>\$ 1,832,779</u>

EMPLOYEE STATISTICS

Teachers' Retirement Fund Association
St. Paul, Minnesota

RECONCILIATION OF MEMBERS

ACTIVE

Active (Including 128 on Leave) December 31, 1974		2,869
Additions:		
New Appointments	182	
Reappointments	<u>15</u>	<u>143</u>
Total		3,012
Separations:		
Retirements	50	
Deaths	2	
Terminations	<u>138</u>	<u>190</u>
Active (Including 116 on Leave) December 31, 1975		<u>2,822</u>
Substitutes		<u>419</u>
Inactive Members		<u>10</u>

RETIRED

Retired and Deferred Pensioners December 31, 1974		754
Additions:		
Retirement	44	
Disability	6	
Deferred	<u>2</u>	<u>52</u>
Total		806
Separations - Deaths		<u>28</u>
Retired and Deferred Pensioners, December 31, 1975		<u>778</u>
Beneficiaries:		
Reversionary	11	
Survivor	20	
Children	<u>17</u>	
Total	<u>48</u>	

Teachers' Retirement Fund Association
St. Paul, Minnesota

RETIRED ON SERVICE PENSION

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
55	-	\$ -	1	\$ 8,088
58	-	-	2	9,144
59	1	6,504	1	4,644
60	3	38,892	3	18,396
61	4	53,304	5	34,596
62	4	44,760	6	41,544
63	8	90,276	5	31,476
64	3	38,532	5	50,268
65	3	18,852	18	108,060
66	8	67,104	14	99,768
67	4	31,968	20	122,352
68	4	38,508	22	152,064
69	3	27,384	35	222,012
70	5	46,183	24	141,468
71	6	51,138	33	186,489
72	3	20,124	39	204,144
73	8	50,333	41	179,160
74	3	18,374	17	79,458
75	5	24,359	30	117,349
76	5	23,245	23	91,423
77	3	11,920	34	133,733
78	2	9,317	27	100,790
79	1	4,037	29	102,853
80	1	4,182	28	93,888
81	5	18,191	25	88,493
82	1	3,923	26	92,741
83	1	3,884	19	62,278
84	-	-	14	50,695
85	-	-	12	39,874
86	-	-	15	50,668
87	1	2,966	11	36,583
88	-	-	9	23,972
89	1	3,080	5	15,642
90	-	-	8	22,890
91	-	-	7	20,340
92	-	-	4	10,212
93	-	-	3	8,184
94	-	-	3	7,560
95	1	2,456	-	-
96	-	-	11	2,704
98	-	-	11	2,633
100	-	-	1	2,856

Total	<u>97</u>	12	<u>\$753,796</u>	<u>626</u>	<u>\$2,871,492</u>
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Teachers' Retirement Fund Association
St. Paul, Minnesota

RETIRED ON LIMITED PENSION

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
69	-	\$ -	3	\$14,328
70	1	3,132	1	3,912
71	-	-	1	2,256
72	1	3,180	3	11,016
73	-	-	1	2,460
75	-	-	2	4,206
78	-	-	4	9,448
79	1	2,118	-	-
80	-	-	2	4,633
81	1	2,436	1	2,233
82	-	-	1	2,308
84	-	-	1	2,055
88	-	-	2	3,597
<u>Totals</u>	<u>4</u>	<u>10,866</u>	<u>22</u>	<u>62,452</u>

Teachers' Retirement Fund Association
St. Paul, Minnesota

RETIRED WITH REVERSIONARY PENSIONS

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
74	1	\$ 3,343	-	\$ -
75	1	2,433	-	-
76	1	4,124	1	3,434
77	-	-	1	4,774
79	1	4,076	1	3,819
80	1	3,091	-	-
84	<u>2</u>	<u>6,985</u>	<u>-</u>	<u>-</u>
<u>Totals</u>	<u>7</u>	<u>\$24,052</u>	<u>3</u>	<u>\$12,027</u>

Teachers' Retirement Fund Association
St. Paul, Minnesota

RETIRED ON DISABILITY PENSION

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
46	1	\$13,548	-	\$ -
47	1	11,172	-	-
48	-	-	1	1,368
53	2	17,952	-	-
54	1	3,324	-	-
58	-	-	1	3,780
59	-	-	1	12,804
60	1	11,748	-	-
62	2	18,468	-	-
63	1	4,188	-	-
66	-	-	1	3,744
69	-	-	1	2,352
70	-	-	1	2,041
72	-	-	1	2,815
74	-	-	2	5,094
77	-	-	1	1,720
<u>Totals</u>	<u>9</u>	<u>\$80,400</u>	<u>10</u>	<u>\$35,718</u>

Teachers' Retirement Fund Association
St. Paul, Minnesota

SURVIVOR ANNUITIES

CHILDREN

<u>Number</u>	<u>Annual Pension</u>
<u>17</u>	<u>\$57,451</u>

MALE

<u>Age</u>	<u>Number</u>	<u>Annual Pension</u>
51	1	\$ 3,900
67	1	1,548
70	1	7,404
75	1	6,228
77	1	4,175
79	1	5,232
<u>Totals</u>	<u>6</u>	<u>\$28,487</u>

FEMALE

<u>Age</u>	<u>Reversionary Survivors</u>		<u>Regular Survivors</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
52	-	\$ -	1	\$ 2,520
54	-	-	1	2,760
56	-	-	2	13,212
58	-	-	1	3,384
64	-	-	2	8,086
65	1	1,208	1	2,280
66	-	-	1	2,129
68	-	-	1	1,605
69	1	1,270	-	-
71	1	910	1	3,290
73	1	2,541	-	-
74	1	3,061	-	-
75	2	5,103	-	-
76	-	-	1	4,613
79	2	3,292	-	-
80	1	1,388	-	-
81	1	1,248	-	-
84	-	-	1	2,634
94	-	-	1	4,428
<u>Totals</u>	<u>11</u>	<u>\$20,021</u>	<u>14</u>	<u>\$50,941</u>

CONSIDERED EARNINGS
(Year Ended December 31, 1975)

Active Male Employees
(Age and Service as of December 31, 1975)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	19	\$ 102,800	2	\$ 13,600	3	\$ 27,050	-	\$ -
25 to 30	29	187,800	37	287,478	74	750,595	68	763,978
30 to 35	12	105,150	15	136,950	32	417,356	113	1,485,072
35 to 40	6	64,510	-	-	15	229,482	43	638,343
40 to 45	4	34,400	4	41,575	13	239,831	31	518,454
45 to 50	4	29,300	3	30,400	2	18,750	23	361,480
50 to 55	-	-	1	5,200	1	21,045	5	82,811
55 to 60	1	5,200	1	5,200	-	-	3	43,200
60 to 65	1	5,200	2	19,700	-	-	3	44,100
65 & Up	3	15,600	1	5,200	-	-	1	18,400
Total	79	\$ 549,960	66	\$ 545,303	140	\$1,704,109	290	\$ 3,955,838

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	-	-	-	-	-	-	-	-
30 to 35	36	550,371	-	-	-	-	-	-
35 to 40	99	1,772,477	22	412,970	-	-	-	-
40 to 45	42	796,790	68	1,333,531	18	400,333	-	-
45 to 50	14	237,065	52	996,275	67	1,358,728	21	450,041
50 to 55	19	357,251	17	334,068	39	738,538	51	1,102,651
55 to 60	11	188,250	5	84,000	15	261,351	30	607,160
60 to 65	3	47,800	2	32,400	3	54,961	8	165,081
65 & Up	1	5,200	-	-	1	19,050	2	33,575
Total	225	\$3,955,204	166	\$3,193,244	143	\$2,832,961	112	\$ 2,358,508

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	24	\$ 143,450
25 to 30	-	-	-	-	-	-	208	1,989,851
30 to 35	-	-	-	-	-	-	108	2,694,899
35 to 40	-	-	-	-	-	-	185	3,117,782
40 to 45	-	-	-	-	-	-	180	3,364,914
45 to 50	-	-	-	-	-	-	186	3,482,039
50 to 55	16	412,366	-	-	-	-	149	3,053,930
55 to 60	17	428,658	2	55,973	-	-	85	1,678,992
60 to 65	10	216,672	10	228,576	1	14,400	43	828,890
65 & Up	4	100,778	-	-	1	21,140	14	218,943
Total	47	\$1,158,474	12	\$ 284,549	2	\$ 35,540	1282	\$20,573,690

CONSIDERED EARNINGS
(Year Ended December 31, 1975)

Active Female Employees
(Age and Service as of December 31, 1975)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	84	\$ 487,950	64	\$ 458,480	15	\$ 131,000	1	\$ 8,700
25 to 30	54	401,950	76	608,237	173	1,666,839	186	1,965,300
30 to 35	27	193,207	38	303,655	28	294,970	132	1,589,755
35 to 40	10	77,400	25	194,381	34	403,036	55	716,963
40 to 45	9	72,530	32	241,650	21	259,064	46	646,622
45 to 50	8	41,600	22	147,650	12	143,770	37	479,818
50 to 55	7	48,000	11	77,200	8	85,250	25	347,201
55 to 60	5	26,000	12	62,400	2	23,300	12	176,540
60 to 65	4	44,200	12	71,700	-	-	2	25,300
65 & Up	3	15,600	4	20,800	-	-	2	21,200
Total	211	\$1,408,437	296	\$2,186,153	293	\$3,007,229	498	\$ 5,977,399

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	-	-	-	-	-	-	-	-
30 to 35	44	622,205	-	-	-	-	-	-
35 to 40	49	800,538	25	437,670	-	-	-	-
40 to 45	27	421,001	29	471,865	11	197,340	-	-
45 to 50	28	447,720	21	376,345	25	429,012	7	118,190
50 to 55	29	485,019	20	338,170	16	287,558	12	219,644
55 to 60	20	314,005	19	336,860	17	294,510	19	312,087
60 to 65	10	175,191	12	190,790	14	237,290	19	348,891
65 & Up	2	20,100	2	32,125	4	60,700	4	69,350
Total	209	\$3,285,779	128	\$2,183,825	87	\$1,506,410	61	\$ 1,068,162

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	164	\$ 1,086,130
25 to 30	-	-	-	-	-	-	489	4,642,326
30 to 35	-	-	-	-	-	-	269	3,003,792
35 to 40	-	-	-	-	-	-	198	2,629,988
40 to 45	-	-	-	-	-	-	175	2,310,072
45 to 50	-	-	-	-	-	-	160	2,184,105
50 to 55	7	124,600	-	-	-	-	135	2,012,642
55 to 60	18	339,990	4	70,790	-	-	128	1,956,482
60 to 65	12	199,750	7	117,487	-	-	92	1,410,599
65 & Up	5	94,180	4	69,700	3	48,980	33	452,735
Total	42	\$ 758,520	15	\$ 257,977	3	\$ 48,980	1843	\$21,688,871

SUMMARY OF PLAN

SUMMARY OF PLAN
(As Amended Effective June 30, 1974)

1. Name

Teachers' Retirement Fund Association St. Paul, Minnesota.

2. Type of Plan

Self-insured, managed by a Board of Trustees consisting of the Mayor, the President of the Council of the City of St. Paul, Chairman of the Board of Independent School District Number 625, and nine others elected by and from members of the Teachers' Association.

3. Employers Included

Board of Education - City of St. Paul.

4. Employees Included

All employees regularly appointed to the St. Paul Public Schools in a position covered by a certificate issued by the Minnesota State Department of Education.

5. Service Considered for Benefits

All periods of service for which salary deductions were made or for which payments in lieu of salary deductions were deposited including military, governmental, outside, and previous St. Paul service, and service during sabbatical leave. After June 30, 1974 St. Paul service for part-time teachers is granted on a proportional basis of actual duty days to the agreed number of annual duty days.

6. Earnings Considered

Annual contract salary. Average salary based on the five years during the last 10 years of St. Paul service which produces the highest average. For any member employed on a part-time basis during any of the 10 years, the average is computed on the basis of the amount earned in the time required to complete one full year of service.

7. Employer Contributions

Based on Contribution Requirements set by Minnesota Teachers Retirement Association.

8. Employee Contributions

8% of annual contract salary including contract salary otherwise payable to a member on sabbatical leave.

If an employee elects to purchase eligible outside service, he may do so pursuant to Article IV, Section 2, Paragraph 2 (d) of the Articles of Incorporation and By-Laws as amended effective June 30, 1974.

9. Normal Retirement Benefit

On or after attainment of age 60 and completion of 25 years of service.

Pension equal to 1.8% of average salary multiplied by the number of years of accredited service; such accredited service limited to a maximum of 40 years.

10. Limited Service Benefit

Automatic retirement at age 68.

Employees compelled to retire may receive an annuity after completion of 10 years of service. Annuity determined as for Normal Retirement considering service and earnings to actual retirement.

11. Early Retirement Benefit

After attainment of age 55 and completion of 25 years of service. Annuity determined as for Normal Retirement considering service and earnings to actual retirement and reduced by 1/2 of 1% for each month or major fraction thereof between actual retirement and attainment of age 60.

12. Disability Benefit

In the event of total and permanent disability after completion of five years of accredited St. Paul service.

Until age 65 the pension is equal to 75% of annual contract salary for last full year of service minus any Social Security and/or Workmen's Compensation benefits being received.

At age 65 the benefit is recomputed as per Normal Retirement considering average salary and accredited service the disabled member would have had if he had continued to teach in his latest position during his period of disability.

13. Deferred Vested Benefit

In the event of termination after completion of ten years of service. Annuity determined as for Normal Retirement payable at age 65.

14. Death Benefit

Active

- (a) In the event of death prior to retirement and after completion of three years of service, an annuity is payable:

- (i) for each eligible child, subject to a maximum of two at one time, equal to 25% of the maximum salary payable to a teacher holding a B.A. degree for for the year in which the member died, and
- (ii) to the surviving spouse, maintaining a home and having legal custody of the dependent child or children equal to 15% of the maximum salary in (i) above.

If the surviving spouse is also eligible for the benefits in (b) next following, such spouse may elect either benefits under (b) or the 15% benefit in (ii) above. All benefits attributable to one deceased member are limited to 90% of such member's final pay.

- (b) In the event of death after completion of 10 years of accredited service, the survivor, as defined in the plan, becomes entitled to a benefit based on the annuity earned to the date of the member's death and payable for life or until remarriage, equal to a joint-and-last survivorship annuity under which 100% of the reduced benefit is payable to the survivor.

Retired

In the event of death after retirement, the survivor receives a life annuity equal to the amount earned by the member to the date of his retirement after reduction to a 100% joint-and-last survivorship form of annuity.

15. Cash Refund of Dues

- (a) Upon termination or death of an active member prior to eligibility for any other pension, the full amount of his dues, without interest, paid since January 1, 1940, will be returned to him or to his beneficiary.
- (b) Upon the death of an active member eligible for a dependent children's benefit, but no other benefit under the Plan, the amount of the dues paid since January 1, 1940 which is in excess of the amount payable to the dependent children, without interest, shall be returned to his beneficiary.
- (c) Upon the death of a retired member, who was not survived by a survivor entitled to any other pension under the plan, the amount of dues paid since January 1, 1940, without interest, in excess of that amount already paid in pension, will be returned to his beneficiary.

On termination of an active member who has completed the probationary employment period under the applicable teacher tenure law, all amounts payable are credited with interest in a manner to be determined by the Board of Trustees.

16. Saving Provision

Any member who retires after December 31, 1954 on a Normal, Limited, Early, or Disability Pension, shall receive a pension not less than the maximum amount payable to any member who retired before January 1, 1955 for an equal period of service, including all increases of the pension of such previously retired member becoming effective after December 31, 1954.

Teachers' Retirement Fund Association
St. Paul, Minnesota

STATEMENT OF ACTUARIAL ASSUMPTIONS

Based on the experience analysis through December 31, 1969, the following assumptions have been used in determining the actuarial liabilities of the Fund:

Interest:	5% per annum, compounded annually.
Mortality:	Group Annuity Table for 1951 projected through 1965. See following tables.
Retirement Age:	Age 65 for Normal Service Pensioners; Age 68 for Limited Service Pensioners.
Disability:	See following tables.
Separation:	See following tables.
Salary Scale:	3½% per annum, compounded annually. See following table.

A detailed statement of the mortality rates, disability rates, turnover rates and salary progression is set forth on the following pages.

LEGISLATIVE REFERENCE LIBRARY
STATE OF MINNESOTA

Teachers' Retirement Fund Association
St. Paul, Minnesota

MORTALITY RATES

(Per 1,000 Employees)

Male Employees

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.517	45	3.002
21	.537	46	3.409
22	.558	47	3.856
23	.581	48	4.344
24	.607	49	4.869
25	.636	50	5.429
26	.667	51	6.027
27	.703	52	6.656
28	.742	53	7.321
29	.784	54	8.019
30	.831	55	8.751
31	.884	56	9.514
32	.941	57	10.312
33	1.005	58	11.154
34	1.074	59	12.057
35	1.152	60	13.043
36	1.237	61	14.143
37	1.331	62	15.390
38	1.435	63	16.828
39	1.550	64	18.504
40	1.677	65	20.475
41	1.838		
42	2.054		
43	2.322		
44	2.639		

Teachers' Retirement Fund Association
St. Paul, Minnesota

MORTALITY RATES

(Per 1,000 Employees)

Female Employees

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.311	45	1.672
21	.330	46	1.819
22	.349	47	1.980
23	.369	48	2.158
24	.392	49	2.355
25	.415	50	2.574
26	.439	51	2.783
27	.466	52	3.016
28	.496	53	3.277
29	.527	54	3.570
30	.561	55	3.898
31	.597	56	4.278
32	.637	57	4.727
33	.681	58	5.253
34	.728	59	5.867
35	.780	60	6.572
36	.836	61	7.369
37	.898	62	8.258
38	.966	63	9.232
39	1.040	64	10.284
40	1.122	65	11.402
41	1.213		
42	1.311		
43	1.420		
44	1.540		

Teachers' Retirement Fund Association
St. Paul, Minnesota

DISABILITY RATES

(Per 1,000 Employees)

All Employees

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.70	45	1.62
21	.71	46	1.76
22	.72	47	1.91
23	.73	48	2.07
24	.74	49	2.23
25	.75	50	2.40
26	.76	51	2.60
27	.78	52	2.86
28	.80	53	3.18
29	.82	54	3.56
30	.84	55	4.00
31	.86	56	4.59
32	.88	57	5.34
33	.90	58	6.10
34	.93	59	7.20
35	.96	60	8.43
36	.99	61	9.75
37	1.03	62	11.30
38	1.07	63	13.05
39	1.11	64	14.90
40	1.15		
41	1.20		
42	1.27		
43	1.36		
44	1.48		

Teachers' Retirement Fund Association
St. Paul, Minnesota

SEPARATION RATES

(Per 1,000 Employees)

Male Employees

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	191	40	25
21	177	41	23
22	163	42	21
23	149	43	19
24	135	44	17
25	122	45	16
26	112	46	16
27	102	47	15
28	92	48	14
29	83	49	13
30	74	50	12
31	67	51	12
32	61	52	11
33	55	53	11
34	49	54	10
35	43	55	9
36	39	56	7
37	35	57	5
38	31	58	3
39	28	59	1

Teachers' Retirement Fund Association
St. Paul, Minnesota

SEPARATION RATES

(Per 1,000 Employees)

Female Employees

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	275	40	80
21	271	41	72
22	267	42	64
23	263	43	56
24	259	44	49
25	255	45	42
26	247	46	37
27	239	47	32
28	231	48	27
29	222	49	23
30	213	50	19
31	199	51	16
32	185	52	14
33	171	53	12
34	157	54	10
35	142	55	8
36	129	56	6
37	116	57	4
38	104	58	2
39	92	59	1

Teachers' Retirement Fund Association
St. Paul, Minnesota

EARNINGS PROGRESSION

All Employees

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.2127	45	.5026
21	.2201	46	.5202
22	.2278	47	.5384
23	.2358	48	.5572
24	.2440	49	.5767
25	.2526	50	.5969
26	.2614	51	.6178
27	.2706	52	.6394
28	.2800	53	.6618
29	.2898	54	.6849
30	.3000	55	.7089
31	.3105	56	.7337
32	.3213	57	.7594
33	.3326	58	.7860
34	.3442	59	.8135
35	.3563	60	.8420
36	.3687	61	.8714
37	.3817	62	.9019
38	.3950	63	.9335
39	.4088	64	.9662
40	.4231	65	1.0000
41	.4380		
42	.4533		
43	.4692		
44	.4856		

LEGISLATIVE REFERENCE LIBRARY
STATE OF MINNESOTA

Teachers' Retirement Fund Association
St. Paul, Minnesota

EXPERIENCE STUDY
(Period 1972 through 1975)

Actuarial Assumptions:

Interest Rate - 5% per annum (set by Law)
Salary Increases - 3 1/2% per annum (set by Law)
Mortality - Group Annuity Table for 1951 projected
through 1965.

Active: The actual deaths among active members were 52% of the number expected (13 actual, 25 expected) The number of new survivor beneficiaries were 110% of the number expected (11 actual, 10 expected).

Retired: The actual deaths among retired members were 81% of the number expected.

Disability - The number of disability retirements were 110% of the number expected under the disability rates with respect to the employees eligible for such benefit (five or more years of service) (11 actual, 10 expected).

Separation - The number of terminations were 187% of the number expected under the separation rate (825 actual, 441 expected). The termination among members eligible for a deferred vested benefit was approximately equal to the number expected with approximately 20% electing a refund of contributions in lieu of a deferred benefit.

Average Entry Age

All actives January 1, 1976	28.3
New Entrants	
January 1, 1972	26.2
January 1, 1973	28.4
January 1, 1974	27.1
January 1, 1975	28.9
January 1, 1976	30.9

Average Retirement Age

Calendar Year

1971	66.4
1972	65.6
1973	64.0
1974	64.9
1975	62.6