

Teachers' Retirement Fund Association
St. Paul, Minnesota

ACTUARIAL VALUATION REPORT
as of
December 31, 1973

Teachers' Retirement Fund Association
St. Paul, Minnesota

TABLE OF CONTENTS

	<u>Page No.</u>
<u>Letter of Transmittal</u>	1
<u>Comments</u>	2-3
<u>Financial Exhibits</u>	
1 Financial Balance Sheet	4
2 Sources and Uses of Funds	5
3 Reconciliation of Asset Balances	6
<u>Actuarial Requirements - 5%</u>	
4 Financial Balance Sheet	7
5 Actuarial Requirements	8
6 Statement of Revenue, Expenditures, Changes in Unfunded Accumulated Contribution Requirement	9
7 Increase in Unfunded Requirements	10
<u>Employee Statistics</u>	
8 Reconciliation of Members	11
9 Retired on Service Pension	12
10 Retired on Limited Pension	13
11 Retired with Reversionary Pensions	14
12 Retired on Disability Pension	15
13 Survivor Annuities	16
14 Active Male Members as of December 31, 1973	17
15 Active Female Members as of December 31, 1973	18
<u>Summary of Plan</u>	19-21
<u>Actuarial Assumptions</u>	22-28

LEGISLATIVE REFERENCE LIBRARY
STATE OF MINNESOTA

13078-01-85

May 13, 1974

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

Gentlemen:

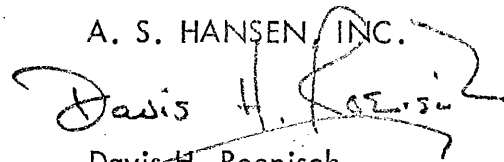
In accordance with your request, we have made an actuarial valuation of the St. Paul Teachers' Retirement Fund Association for the year ended December 31, 1973, in order to determine the adequacy of the contributions being made to that system and to prepare the financial and actuarial reports as required 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,

A. S. HANSEN, INC.


Davis H. Roenisch

DHR:gem
13078-01-85

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. Other assumptions as to retirement age, mortality, disability and withdrawal generally reflect the recent experience of the retirement system as developed by an experience analysis and with consideration for discernible trends in such rates. This experience analysis measured the experience of the Teachers' System for the four-year period ended December 31, 1969 and is presented in the report for the year ended December 31, 1969.

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

Exhibit 4 shows the present value of all benefits to both active members, and retirees (and beneficiaries) now receiving benefits at 5%. This amount does not reflect the value of increases granted retirees in 1955, 1958, 1962, 1966, and 1970. This is appropriate because the funds required for these benefit increases are provided from another source.

Exhibit 4 also indicates an amount of Unfunded Accumulated Contribution Requirement of \$63,573,194. This amount represents a decrease of \$4,066,055. The primary reasons for the decrease are estimated in Exhibit 7.

The major reasons for the decrease in the Unfunded was the relatively large number of terminations, the concomitant release of a large projected obligation in exchange for a small vested liability and the concentration of larger than anticipated salary increases on the younger teachers.

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

While the actuarial balance continues to reveal deficits, we remain of the opinion that the ultimate asset accumulation will be sufficient to provide for the teachers benefits should the program ever be terminated. This opinion is supported by the pattern of decline in the statutory deficit on a 5% basis as follows:

Year Ending December 31

1970	(5.00%)
1971	(4.54%)
1972	(4.20%)
1973	(2.62%)

Under these conditions, we do not believe it necessary or appropriate to call for an increase in the teacher or city contribution rate at this time.

FINANCIAL EXHIBITS

LEGISLATIVE REFERENCE LIBRARY
STATE OF MINNESOTA

A. S. Hansen, inc.

Teachers' Retirement Fund Association
St. Paul, Minnesota

FINANCIAL BALANCE SHEET
(December 31, 1973)

ASSETS

Cash		\$ 21,456.37
Receivables		
Interest	\$370,307.98	
Dividends Declared not Received	<u>9,739.00</u>	380,046.98
Short Term Notes, at Discounted Value		4,767,200.13
Bonds, at Amortized Cost		19,391,931.54
Stocks, at Cost		7,351,873.58
Deferred Yield Adjustment Account		1,094,829.07
Furniture and Equipment, Less Depreciation		3,832.44
Administrative Expenses Payable		<u>(6,866.91)</u>
<u>Total Assets</u>		<u>\$33,004,303.20</u>
Members Accumulated Contributions (without interest)		\$15,453,039.77
Administration Expenses 1973 - \$103,303.80		

Teachers' Retirement Fund Association
St. Paul, Minnesota

SOURCES AND USES OF FUNDS

SOURCES

Cash Balance January 1, 1973		\$ 45,921.89
Income from Taxes:		
City of St. Paul	\$1,863,933.80	
State of Minnesota	<u>3,308,757.00</u>	5,172,690.80
Income from Members:		
Payroll Deductions	\$2,667,252.39	
Prior Service	1,313.81	
Back Dues	5,800.02	
Return of Refunds	<u>5,252.96</u>	2,679,619.18
Income from Investments:		
Interest	\$1,437,480.83	
Dividends	179,610.17	
Miscellaneous	<u>469.54</u>	1,617,560.54
Investments Sold		<u>25,702,288.75</u>
<u>Total</u>		<u>\$35,218,081.16</u>

USES

Pensions Paid:		
Retirement	\$2,976,668.66	
Survivor	62,584.32	
Children	<u>21,500.00</u>	\$ 3,060,752.98
Refunds of Dues		367,264.60
Administrative Expenses:		
Salaries	\$ 54,730.38	
Office Expense	8,494.58	
Legal and Actuarial Services	8,560.00	
Taxes, Insurance and Members Dues	3,959.83	
Office Equipment	--	
Delegate Expense	3,500.00	
Data Processing	2,770.20	
Investment Counsel Service	<u>18,910.28</u>	100,925.27
Refund - Investment Received not Earned		9,528.75
Investments Purchased		<u>31,658,153.19</u>
Sub-Total		\$35,196,624.79
Cash Balance December 31, 1973		<u>21,456.37</u>
<u>Total</u>		<u>\$35,218,081.16</u>

ACTUARIAL REQUIREMENTS - 5%

Teachers' Retirement Fund Association
St. Paul, Minnesota

RECONCILIATION OF ASSET BALANCES
(December 31, 1973)

Asset Balance - December 31, 1972 \$27,554,138.23

Additions:

Taxes	\$5,172,690.80	
From Member Contributions	2,679,619.18	
Investment Income	<u>1,825,399.39</u>	<u>9,677,709.37</u>

\$37,231,847.60

Deductions:

Benefit Payments	\$3,060,009.98	
Refunds	367,264.60	
Administrative Expenses	103,303.80	
Net Loss on Sale of Investments	<u>696,966.02</u>	<u>\$ 4,227,544.40</u>

Asset Balance - December 31, 1973 \$33,004,303.20

Teachers' Retirement Fund Association
St. Paul, Minnesota

FINANCIAL BALANCE SHEET

(December 31, 1973)

Present Value of Benefits Expected to be Paid by Retirement Fund

To Active Teachers for

Retirement	\$97,773,481.00
Disability	4,586,543.00
Survivorship	3,604,938.00
Refund	<u>3,187,855.00</u>

Total \$109,152,817.00

To Vested Teachers 114,838.00

To Teachers on Leave 409,398.00

To Former Teachers without
Vested Rights 27,140.00

To Teachers and Beneficiaries

Now Receiving Benefits for

Retirement	\$24,320,808.00
Disability	246,919.00
Survivorship	<u>637,203.00</u>

Total \$ 25,204,930.00

Total Value of Benefits \$134,909,123.00

Less Value of Expected Future Contributions* 38,331,626.00

Accumulated Contribution Requirement

Assuming Full Funding During
Prior Service Period

\$ 96,577,497.00

Assets on Hand

33,004,303.20

Accumulated Contribution Requirement
to be Amortized by 1997

\$ 63,573,193.80

*As Determined by the Entry Age Normal Cost Method.

Teachers' Retirement Fund Association
St. Paul, Minnesota

ACTUARIAL REQUIREMENTS
(December 31, 1973)

TOTAL REQUIREMENTS

Expected Future Contributions on Behalf of Active Teachers	\$ 38,331,626
Accumulated Contribution Assuming Full Funding During Prior Service Period	<u>96,577,497</u>
Total - Value of All Benefits Payable to Present Members	\$134,909,123

AMORTIZATION RATE REQUIREMENT

Accumulated Contribution Requirement	\$ 96,577,497	
Assets on Hand	<u>33,004,303</u>	
Amount to be Amortized	\$ 63,573,194	
Contribution Requirement for Amortization Period of 24 Years	\$ 4,607,213	
Current Payroll	\$ 37,933,849	
Amortization Rate Requirement		12.15%

LEVEL CONTRIBUTION (ENTRY AGE NORMAL) RATE REQUIREMENT

Expected Future Contributions on Behalf of Active Teachers	\$ 38,331,626	
Expected Future Payroll	416,726,700	
Total Entry Age Normal Rate Requirement	9.20%	
Teacher Contribution Rate	<u>7.00</u>	
Employer Entry Age Normal Rate Requirement		2.20%

ACTUARIAL BALANCE

Employer Statutory Contribution Rate		12.00%
Rate Requirements		
Amortization Rate Requirement	12.15%	
Entry Age Normal Rate Requirement	2.20	
Expenses Rate Requirement	<u>0.27</u>	
Total Rate Requirement		14.62%
Deficit of Statutory Rate over Rate Requirement		(2.62%)

Teachers' Retirement Fund Association
St. Paul, Minnesota

STATEMENT OF REVENUE, EXPENDITURES, CHANGES IN
UNFUNDED ACCUMULATED CONTRIBUTION REQUIREMENT
(Year Ended December 31, 1973)

Revenue:

Employer Contributions	\$5,172,690.80	
Employee Contributions	2,679,619.18	
Net Investment Income*	<u>1,128,433.37</u>	
Total Revenue		\$8,980,743.35

Expenditure:

Benefits	\$3,060,009.98	
Refund of Dues	367,264.60	
Administrative Expense	<u>103,303.80</u>	
Total Expenditures		<u>\$3,530,578.38</u>

Increase in Assets (1973) \$5,450,164.97

Increase in Accumulated Contribution Requirement 1,384,110.00

Decrease (Increase) in Unfunded Accumulated
Contribution Requirement \$4,066,054.97

*Investment Income minus \$696,966.02 Net Loss on Sale of Investments.

Teachers' Retirement Fund Association
St. Paul, Minnesota

INCREASE (DECREASE) IN UNFUNDED REQUIREMENTS

Unfunded	December 31, 1972	\$67,639,249
Unfunded	December 31, 1973	<u>63,573,194</u>
Increase (Decrease)		<u>\$ (4,066,055)</u>

ALLOCATION OF INCREASE (DECREASE) IN UNFUNDED REQUIREMENT

(1)	Change in Benefits	\$	--
(2)	Change in Actuarial Assumptions		--
(3)	Net Actuarial Loss (Gain)		(4,120,128)
(4)	Deficiency in Total Rate Requirement over Statutory Rate	\$1,471,285	
	Principal of Unfunded Anticipated in Total Rate Requirement	<u>1,417,212</u>	
	Increase Due to Rate Deficiency		54,073
(5)	Change in Eligibility		<u>--</u>
	Total Increase (Decrease)		<u>\$ (4,066,055)</u>

ALLOCATION OF NET ACTUARIAL LOSS (GAIN)

Increase in Average Earnings	\$ 3,289,510
Investment Income in excess of 5%: Loss (Gain)	385,528
Net Reserves Released on Termination	(3,256,657)
Decline in the Size of the Group	(3,907,391)
Experience Variation: Loss (Gain)	<u>(631,118)*</u>
<u>Total Decrease</u>	<u>\$ (4,120,128)</u>

*Primarily due to the differential salary increase by age; i.e., the older the teacher, the smaller the increase.

Teachers' Retirement Fund Association
St. Paul, Minnesota

RECONCILIATION OF MEMBERS

ACTIVE

Active (Including 117 on Leave)		
December 31, 1972		3,017
Additions:		
New Appointments	141	
Reappointments	<u>92</u>	<u>233</u>
Total		3,250
Separations:		
Retirements	32	
Deaths	4	
Terminations	<u>317</u>	<u>353</u>
Active (Including 102 on Leave)		
December 31, 1973		<u>2,897</u>
Inactive Members		<u>5</u>

RETIRED

Retired and Deferred Pensioners		
December 31, 1972		745
Additions:		
Retirement	29	
Disability	3	
Deferred	<u>4</u>	<u>36</u>
Total		781
Separations - Deaths		<u>37</u>
Retired and Deferred Pensioners,		
December 31, 1973		<u>744</u>
Beneficiaries:		
Reversionary	10	
Survivor	15	
Children	<u>18</u>	
Total	<u>43</u>	

EMPLOYEE STATISTICS

RETIRED ON SERVICE PENSION

Age	Male		Female	
	Number	Annual Pension	Number	Annual Pension
57	-	\$ -	1	\$ 4,644
58	-	-	1	4,212
59	-	-	1	4,200
60	2	13,320	3	17,688
61	1	5,820	1	4,092
62	1	9,384	2	10,500
63	2	9,384	8	37,356
64	3	20,520	7	36,252
65	2	15,492	18	102,180
66	1	9,192	15	85,800
67	2	10,512	31	165,312
68	4	30,480	24	129,540
69	5	50,904	34	191,004
70	3	20,124	39	221,501
71	7	50,333	37	189,098
72	3	18,374	21	99,008
73	5	24,359	31	121,233
74	4	23,245	24	94,862
75	3	11,920	39	150,062
76	2	9,317	28	104,850
77	1	4,037	32	114,474
78	1	4,182	31	104,522
79	5	18,191	28	98,381
80	1	3,923	27	96,802
81	2	8,014	20	66,289
82	1	3,262	17	62,447
83	1	2,189	16	52,025
84	-	-	18	58,793
85	1	2,966	14	46,941
86	-	-	9	23,972
87	1	3,080	5	15,642
88	-	-	12	34,823
89	-	-	9	26,235
90	1	2,823	6	15,433
91	-	-	5	13,733
92	-	-	3	7,566
93	1	2,456	-	-
94	-	-	1	2,704
96	-	-	3	7,691
97	-	-	1	2,704
98	-	-	1	2,856
99	-	-	2	5,475
102	-	-	1	2,739
<u>Total</u>	<u>66</u>	<u>\$387,803</u>	<u>626</u>	<u>\$2,635,641</u>

Teachers' Retirement Fund Association
St. Paul, Minnesota

RETIRED ON LIMITED PENSION

Age	Male		Female	
	Number	Annual Pension	Number	Annual Pension
68	1	\$ 3,132	1	\$ 3,912
69	-	-	1	2,256
70	1	3,180	3	11,016
71	-	-	1	2,460
73	-	-	2	4,206
76	-	-	4	9,448
77	1	2,118	-	-
78	-	-	2	4,633
79	1	2,436	1	2,233
80	-	-	1	2,308
81	1	2,189	-	-
82	-	-	1	2,055
85	-	-	1	1,593
86	-	-	2	3,597
92	-	-	1	2,088
93	-	-	1	2,147
<u>Totals</u>	<u>5</u>	<u>\$13,055</u>	<u>22</u>	<u>\$53,952</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>
72	1	\$ 3,343	-	\$ -
73	1	2,433	-	-
74	1	4,124	1	3,434
75	-	-	1	4,774
77	1	4,076	1	3,819
78	1	3,091	-	-
82	2	6,985	-	-
83	1	3,061	-	-
<u>Totals</u>	<u>8</u>	<u>\$27,113</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 Annuity</u>	<u>Number</u>	<u>Annual Annuity</u>
46	-	\$ -	1	\$ 1,368
51	1	4,644	-	-
56	-	-	1	3,780
60	1	6,228	-	-
61	1	4,188	-	-
64	-	-	1	3,744
67	-	-	1	2,352
68	-	-	1	1,596
70	-	-	1	2,815
72	-	-	3	7,116
75	-	-	1	1,720
96	-	-	1	2,017
<u>Totals</u>	<u>3</u>	<u>\$15,060</u>	<u>11</u>	<u>\$26,508</u>

Teachers' Retirement Fund Association
St. Paul, Minnesota

SURVIVOR ANNUITIES

CHILDREN

<u>Number</u>	<u>Annual Pension</u>
<u>18</u>	<u>\$23,820</u>

MALE

(Regular Survivors)

<u>Age</u>	<u>Number</u>	<u>Annual Pension</u>
49	1	\$ 3,900
65	1	1,548
75	1	4,175
77	1	5,232
<u>Totals</u>	<u>4</u>	<u>\$14,855</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>
50	-	\$ -	1	\$ 2,520
56	-	-	1	3,384
62	-	-	2	8,086
63	1	1,208	1	2,280
64	-	-	1	2,129
66	-	-	1	1,392
67	1	1,270	-	-
69	1	910	1	3,290
71	1	2,541	-	-
73	2	5,103	-	-
74	-	-	1	4,613
77	2	3,292	-	-
78	1	1,388	-	-
79	1	1,248	-	-
82	-	-	1	2,634
92	-	-	1	4,428
<u>Totals</u>	<u>10</u>	<u>\$16,960</u>	<u>11</u>	<u>\$34,756</u>

ST. PAUL, MINNESOTA
CONSIDERED EARNINGS
 (Year Ended December 31, 1973)

Active Male Employees
 (Age and Service as of December 31, 1973)

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	20	\$ 159,533	20	\$ 170,135	9	\$ 78,560	-	\$ -
25 to 30	11	104,429	38	365,330	110	1,160,675	32	353,353
30 to 35	5	61,830	13	158,359	54	654,783	99	1,295,776
35 to 40	3	44,664	10	127,365	22	302,171	56	886,540
40 to 45	1	22,300	6	98,315	19	287,934	23	375,248
45 to 50	1	9,190	-	-	8	127,115	16	265,287
50 to 55	-	-	1	13,290	6	96,559	10	163,060
55 to 60	-	-	1	12,740	3	46,825	5	76,195
60 to 65	-	-	-	-	3	45,490	1	15,075
65 to 70	-	-	-	-	-	-	-	-
70 & Up	-	-	-	-	-	-	-	-
Total	41	\$ 401,946	89	\$ 945,534	234	\$2,800,112	242	\$3,430,532

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	22	325,735	-	-	-	-	-	-
35 to 40	83	1,440,506	6	99,699	-	-	-	-
40 to 45	59	986,725	77	1,427,769	8	155,076	-	-
45 to 50	35	574,956	33	596,392	73	1,360,573	6	116,190
50 to 55	13	216,240	19	343,135	54	1,050,410	25	502,232
55 to 60	2	30,150	9	143,060	16	333,597	14	306,400
60 to 65	3	47,350	4	64,952	9	157,358	6	128,926
65 to 70	1	15,075	-	-	1	15,225	1	16,873
70 & Up	-	-	-	-	-	-	-	-
Total	218	\$3,636,737	148	\$2,675,007	161	\$3,072,239	52	\$1,070,702

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	49	\$ 408,228
25 to 30	-	-	-	-	-	-	191	1,983,789
30 to 35	-	-	-	-	-	-	193	2,496,483
35 to 40	-	-	-	-	-	-	180	2,900,945
40 to 45	-	-	-	-	-	-	193	3,353,367
45 to 50	-	-	-	-	-	-	172	3,049,703
50 to 55	1	18,050	-	-	-	-	129	2,402,999
55 to 60	15	328,740	1	30,100	-	-	66	1,307,807
60 to 65	16	371,630	5	104,200	-	-	47	935,040
65 to 70	1	15,425	4	85,195	1	19,820	9	167,615
70 & Up	-	-	-	-	-	-	-	-
Total	33	\$ 733,845	10	\$ 219,495	1	\$ 19,820	1229	\$19,005,976

CONSIDERED EARNINGS
(Year Ended December 31, 1973)

Active Female Employees
(Age and Service as of December 31, 1973)

YEARS OF SERVICE

Age	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	47	\$ 367,956	46	\$ 385,270	58	\$ 506,655	-	\$ -
25 to 30	29	256,524	26	228,880	290	2,725,714	86	893,390
30 to 35	14	143,554	11	113,345	52	570,944	98	1,173,174
35 to 40	15	157,825	15	168,074	42	503,437	47	623,846
40 to 45	3	28,062	9	93,840	43	474,115	37	469,904
45 to 50	2	26,455	6	69,090	26	304,506	35	482,390
50 to 55	-	-	2	23,180	11	123,137	20	258,561
55 to 60	-	-	1	20,300	4	49,420	11	154,278
60 to 65	-	-	1	8,400	2	25,785	2	31,565
65 to 70	-	-	-	-	-	-	-	-
70 & Up	-	-	-	-	-	-	-	-
Total	110	\$ 980,376	117	\$1,110,379	528	\$5,283,713	336	\$4,092,039

YEARS OF SERVICE

Age	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	14	219,578	-	-	-	-	-	-
35 to 40	52	759,172	6	93,825	-	-	-	-
40 to 45	24	350,748	30	487,518	10	160,782	1	13,750
45 to 50	27	427,660	17	275,810	13	207,647	4	63,046
50 to 55	27	414,125	22	362,502	12	186,916	16	254,403
55 to 60	15	237,874	11	166,385	22	350,993	19	298,925
60 to 65	8	124,694	10	159,075	21	326,605	17	295,385
65 to 70	1	13,900	4	61,940	-	-	4	59,750
70 & Up	-	-	-	-	-	-	-	-
Total	168	\$2,547,751	100	\$1,607,055	78	\$1,232,943	61	\$ 965,283

YEARS OF SERVICE

Age	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	151	\$ 1,259,881
25 to 30	-	-	-	-	-	-	431	4,104,378
30 to 35	-	-	-	-	-	-	189	2,220,595
35 to 40	-	-	-	-	-	-	177	2,311,179
40 to 45	-	-	-	-	-	-	157	2,078,779
45 to 50	-	-	-	-	-	-	130	1,856,598
50 to 55	7	121,450	-	-	-	-	117	1,744,274
55 to 60	16	245,361	1	13,750	-	-	100	1,537,286
60 to 65	19	292,935	7	108,625	4	61,360	91	1,434,429
65 to 70	5	78,095	2	35,525	7	131,264	23	380,474
70 & Up	-	-	-	-	-	-	-	-
Total	47	\$ 737,841	10	\$ 157,900	11	\$ 192,624	1566	\$18,927,873

SUMMARY OF PLAN

Teachers' Retirement Fund Association
St. Paul, Minnesota

SUMMARY OF PLAN

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, Comptroller, Chairman of the Board of Education, of the City of St. Paul, 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 Saint 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 service, governmental service, outside service, previous St. Paul service, and service during sabbatical leave.

6. Earnings Considered

Annual contract salary. Average salary based on the five years during the last ten years of St. Paul service which produces the highest average.

7. Employer Contributions

- (a) 10% of annual contract salaries for calendar years 1969 and 1970, 11% for calendar years 1971 and 1972, and 12% for calendar year 1973 and thereafter, plus
- (b) an amount required to provide for the increase in pension granted to retired members.

8. Employee Contributions

7% of annual contract salary including contract salary otherwise payable to a member on sabbatical leave.

If an employee elects to purchase eligible outside service, a contribution of 10.5% of his earnings received during such outside service shall be made.

9. Normal Retirement Benefit

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

Pension equal to the sum of:

- (a) 1.5% of average salary for each of the first ten years, plus
- (b) 1.7% of average salary for each of the second ten years, plus
- (c) 1.9% of average salary for each of the third ten years, plus
- (d) 2.1% of average salary for each of the fourth ten 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 monthly 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 and,

- (a) if the employee has attained age 60, annuity determined as for Normal Retirement based on service to date of disability.
- (b) if the employee is under age 60, 80% of the annuity determined as for Normal Retirement based on service to date of disability. Upon attainment of age 60, annuities of employees with at least 20 years of service will be increased to 100%.

Minimum monthly annuity \$40.00.

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

In event of death prior to retirement and completion of three years service, an annuity becomes payable for each "dependent" child of \$100 a month, but not greater than \$300 a month for any one family, and ceases when the child is no longer considered to be "dependent" as defined in the Plan.

In the event of death after attainment of age 50 and completion of 20 years of 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 50% 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.

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.

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		