

ST. PAUL TEACHERS' RETIREMENT

FUND ASSOCIATION

Actuarial Valuation Report

December 31, 1984

Touche Ross & Co.

March 29, 1985

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION

BASIC AND COORDINATED PENSION PLANS

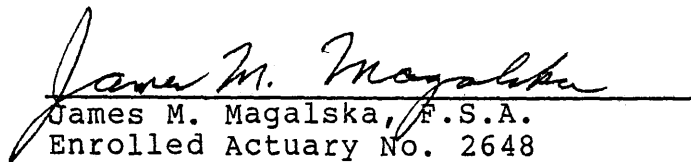
ACTUARIAL VALUATION CERTIFICATION

We present in this report the results of the actuarial valuation of the St. Paul Teachers' Retirement Fund Association Basic and Coordinated Pension Plans as of December 31, 1984.

The employee data and financial information used in this valuation were provided by the Association, and are assumed to be correct.

All costs, liabilities, and other factors under the Plans were determined in accordance with generally accepted actuarial principles and procedures, using the actuarial assumptions and methods described herein. In our opinion, the costs and actuarial exhibits presented in this report fully and fairly disclose the actuarial position of the Plans.

TOUCHE ROSS & CO.


James M. Magalska, F.S.A.
Enrolled Actuary No. 2648

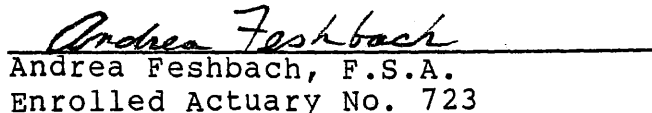

Andrea Feshbach, F.S.A.
Enrolled Actuary No. 723

TABLE OF CONTENTS

	<u>Page</u>
Comments	i
Report Highlights	ii
I. Plan Participation	1
II. Financial Exhibits	15
III. Actuarial Status of Plans	18
IV. Summary of Principal Provisions of the Plans	32
V. Statement of Actuarial Assumptions	41
VI. Actuarial Balance Sheet Pursuant to M.S. 356-215 Sub 4 (6)	51

COMMENTS

This report describes the actuarial valuation of the St. Paul Teachers' Retirement Fund Association Pension Plans as of December 31, 1984.

This valuation has been completed in accordance with Minnesota Law under the supervision of an approved actuary. These laws require the use of the Entry Age Normal Cost method, as well as assumed salary increases of 6-1/2% and an assumed investment return of 8% per year. (Changed from 3-1/2% and 5%, respectively, last year.)

The first section of this report presents a summary of the members participating in the Plans, followed by a summary of the Financial Statements of Plan Assets. The third section presents our determination of the actuarial status of the Plans. A summary of plan provisions and actuarial assumptions concludes the report.

The statutory employer contribution rate of 10.4180% of payroll (weighted average for Basic and Coordinated Plans) is slightly above the actuarial requirement of 9.5350% of payroll. The actuarial requirement is the contribution rate that would pay the current cost under the Entry Age Normal cost method (the Normal Cost), and fund the past service liability by the year 2009. This actuarial requirement decreased significantly from 19.2475% last year, due primarily to changes in the actuarial assumptions and methods used to prepare this year's valuation, as documented in Section III, Actuarial Status of Plans and in Section V, Statement of Actuarial Assumptions.

REPORT HIGHLIGHTS

	<u>12/31/84</u> <u>Valuation</u>	<u>12/31/83</u> <u>Valuation</u>	For details please see:
Section I. Plan Participation			Page 1
A. Active Members	2,426	2,384	
B. Members on Leave	140	159	
C. Substitutes and Part-time Currently Working	380	350	
D. Inactive Members	35	37	
E. Retired Members	955	943*	
F. Beneficiaries	105	98	
	<u>4,041</u>	<u>3,971*</u>	
Section II. Financial Exhibits			Page 15
A. Assets**	\$143,600,437	\$132,517,579	
B. Members' Accumulated Contributions (without interest)	44,713,484	42,326,433	
C. Net Investment Return	12,985,658***	12,033,520	
Section III. Actuarial Status of Plans			Page 18
A. Total Rate Requirement	16.5827%	26.4337%	
B. Teacher Contribution Rate (weighted average)	7.0477	7.1862	
C. Employer Statutory Contri- bution Rate (weighted average)	10.4180	10.7398	
D. Deficit (surplus)	(.8830)	8.5077	
Section IV. Summary of Principal Provisions of the Plans			Page 32
Section V. Statement of Actuarial Assumptions			Page 41
Section VI. Actuarial Balance Sheet Pursuant to M.S. 356-215 Sub 4 (6)			Page 51

* Does not reconcile to last year's report due to data corrections.

** Assets at 12/31/83 at cost plus \$5,649,058.21 Deferred Yield Adjustment Account. Assets at 12/31/84 at cost plus \$946,218.11 adjustment for one-third of unrealized gains or losses.

*** Excluding impact of change in asset valuation method.

I. PLAN PARTICIPATION

I. PLAN PARTICIPATION

Employees are required to participate in the retirement program upon their appointment. The Association provided us with data for all participants as of December 31, 1984. Table 1 displays various data concerning the participant group.

Table 1 - Participant Data

	<u>12/31/84</u>	<u>12/31/83</u>
Active members	2,426	2,384
Members on leave	140	<u>159</u>
Substitutes and part-time currently working	380	350
Terminated members with vested deferred benefits	35	37
Retired members	955	943*
Beneficiaries	<u>105</u>	<u>98</u>
Total	4,041	3,971*

Basic Plan

Active members	1,734	1,787
Leave of absence	82	112
Payroll for all active members	\$53,152,644**	\$50,874,389**
Average Salary	\$30,653**	\$28,469**
Average age	46.5	45.80
Average past service	17.4 years	16.70 years
Average future service	15.9 years	19.24 years

Coordinated Plan

Active members, part-time, and substitutes	1,072	947
Leave of absence	58	47
Payroll for all active members	\$19,867,578	\$15,414,735
Average Salary	\$18,533	\$16,277
Average age	37.1	36.88
Average past service	2.6 years	2.47 years
Average future service	26.0 years	28.13 years

* Does not reconcile to last year's report due to data corrections

** Does not include extracurricular pay or long-service bonuses.

Table 2 presents a reconciliation of members from December 31, 1983 to December 31, 1984.

Table 2 - Reconciliation of Members

ACTIVE

Active (Including 159 on Leave) as of December 31, 1983		2,543
Additions:		
New Appointments 1984	118	
Reappointments	<u>35</u>	
TOTAL		153
Separations:		
Deaths	1	
Terminations (Including retirement)	<u>129</u>	
		(130)
Active (Including 140 On Leave) as of December 31, 1984		<u>2,566</u>
Substitutes and Part-Time currently working		<u>380</u>
Inactive Members		<u>1,628</u>
Terminated Members with vested deferred benefits		<u>35</u>

RETIRED

Retired members as of December 31, 1983		943*
Additions During 1984:		
Retirement	60	
Disability	<u>4</u>	
TOTAL		64
Separations - Deaths		(52)
Retired Members as of December 31, 1984		<u>955</u>
Beneficiaries:		
Reversionary	9	
Survivor	81	
Children	<u>15</u>	
TOTAL		<u>105</u>

* Does not reconcile to last year's report due to data corrections.

The following tables indicate the distribution of members by age and, for actives, years of service. The total earnings are shown for each group of active members, while the annual pension benefits are shown for retired members and beneficiaries. The Basic Plan is displayed first in subsection A, followed by the Coordinated Plan in subsection B.

In the following tables, earnings for active members do not include extracurricular pay or long-term-service bonuses.

BASIC PLAN

CONSIDERED EARNINGS
(YEAR ENDED DECEMBER 31, 1984)

TABLE 3 - ACTIVE MALE MEMBERS
(AGE AND CREDITED SERVICE AS OF DECEMBER 31, 1984)

<u>AGE</u>	<u>YEARS OF SERVICE</u>							
	<u>UNDER 1</u>		<u>1</u>		<u>2 TO 4</u>		<u>5 TO 9</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	13	282657
35 TO 39	0	0	0	0	0	0	24	647090
40 TO 44	0	0	0	0	2	60400	14	404150
45 TO 49	0	0	0	0	0	0	8	249334
50 TO 54	0	0	0	0	1	27500	2	61930
55 TO 59	0	0	0	0	0	0	3	79200
60 TO 64	0	0	0	0	0	0	0	0
65 & UP	0	0	0	0	0	0	0	0
<u>TOTAL</u>	0	0	0	0	3	87900	64	1724361

<u>AGE</u>	<u>YEARS OF SERVICE</u>							
	<u>10 TO 14</u>		<u>15 TO 19</u>		<u>20 TO 24</u>		<u>25 TO 29</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0
30 TO 34	13	308190	0	0	0	0	0	0
35 TO 39	78	2294445	33	1067674	0	0	0	0
40 TO 44	53	1675482	86	2802372	18	607905	0	0
45 TO 49	29	958765	48	1574384	61	2101162	15	503754
50 TO 54	16	536885	30	991966	40	1384511	64	2232594
55 TO 59	4	128200	19	606446	18	599121	30	1009888
60 TO 64	1	31800	4	157409	11	321286	7	255212
65 & UP	1	33800	2	60200	2	63600	1	33800
<u>TOTAL</u>	195	5967567	222	7260451	150	5077585	117	4035248

<u>AGE</u>	<u>YEARS OF SERVICE</u>							
	<u>30 TO 34</u>		<u>35 TO 39</u>		<u>40 & UP</u>		<u>ALL</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	26	590847
35 TO 39	0	0	0	0	0	0	135	4009209
40 TO 44	0	0	0	0	0	0	173	5550309
45 TO 49	0	0	0	0	0	0	161	5387399
50 TO 54	16	590917	0	0	0	0	169	5826303
55 TO 59	43	1566912	11	398996	0	0	128	4388763
60 TO 64	11	365125	8	313251	0	0	42	1444083
65 & UP	0	0	1	32300	0	0	7	223700
<u>TOTAL</u>	70	2522954	20	744547	0	0	841	27420613

BASIC PLAN (CONTINUED)

CONSIDERED EARNINGS
(YEAR ENDED DECEMBER 31, 1984)

TABLE 4 - ACTIVE FEMALE MEMBERS
(AGE AND CREDITED SERVICE AS OF DECEMBER 31, 1984)

<u>AGE</u>	<u>YEARS OF SERVICE</u>							
	<u>UNDER 1</u>		<u>1</u>		<u>2 TO 4</u>		<u>5 TO 9</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	5	93650
30 TO 34	0	0	0	0	4	69819	57	1132150
35 TO 39	0	0	1	21500	2	31500	41	951205
40 TO 44	0	0	0	0	1	5075	24	579767
45 TO 49	0	0	0	0	0	0	14	372700
50 TO 54	0	0	2	47300	0	0	16	416175
55 TO 59	0	0	0	0	0	0	5	129500
60 TO 64	0	0	0	0	0	0	3	62750
65 & UP	0	0	0	0	0	0	0	0
TOTAL	0	0	3	68800	7	106394	165	3737897

<u>AGE</u>	<u>YEARS OF SERVICE</u>							
	<u>10 TO 14</u>		<u>15 TO 19</u>		<u>20 TO 24</u>		<u>25 TO 29</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0
30 TO 34	16	391110	0	0	0	0	0	0
35 TO 39	137	3737095	46	1418900	0	0	0	0
40 TO 44	52	1580151	61	1926028	12	396590	0	0
45 TO 49	46	1399455	46	1483011	38	1235715	6	197451
50 TO 54	27	824674	32	990068	19	591554	21	653593
55 TO 59	25	741063	14	449980	17	564249	16	553486
60 TO 64	5	133170	16	517700	9	271400	11	330580
65 & UP	2	54000	3	94300	4	141300	1	28000
TOTAL	310	8860718	218	6879987	99	3173808	55	1763110

<u>AGE</u>	<u>YEARS OF SERVICE</u>							
	<u>30 TO 34</u>		<u>35 TO 39</u>		<u>40 & UP</u>		<u>ALL</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	5	93650
30 TO 34	0	0	0	0	0	0	77	1593079
35 TO 39	0	0	0	0	0	0	227	6160200
40 TO 44	0	0	0	0	0	0	150	4487611
45 TO 49	0	0	0	0	0	0	150	4688332
50 TO 54	8	249700	0	0	0	0	125	3773064
55 TO 59	10	330031	5	157400	0	0	92	2925709
60 TO 64	2	68300	4	111400	1	40386	51	1535686
65 & UP	1	28000	3	97400	2	58700	16	474700
TOTAL	21	676031	12	366200	3	99086	893	25732031

A. BASIC PLAN (CONTINUED)

TABLE 5 - RETIRED ON SERVICE PENSION

AGE	MALE		FEMALE	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
55	1	16417	0	0
56	4	43863	2	7600
57	6	92293	1	5150
58	7	92908	6	70061
59	8	130229	6	56711
60	19	393816	6	69852
61	19	351909	5	45609
62	15	266886	7	80519
63	13	254660	11	117999
64	19	278965	11	134698
65	13	185440	17	237716
66	7	139325	10	122117
67	12	184161	11	97599
68	11	166785	17	156604
69	10	132129	19	176317
70	7	108432	22	205735
71	9	135758	17	143943
72	15	160982	20	134343
73	8	105566	14	123476
74	5	45417	20	140873
75	8	83762	17	136963
76	3	25416	20	135580
77	5	53153	20	148773
78	3	27384	30	201809
79	3	32651	23	136914
80	5	37973	24	140429
81	1	6072	30	154639
82	5	33568	31	152167
83	1	6274	16	72617
84	3	14650	18	75515
85	4	18598	18	74066
86	0	0	15	65275
87	2	9874	13	54551
88	0	0	11	39412
89	0	0	11	39813
90	0	0	9	36007
91	0	0	11	45520
92	1	4221	12	40549
93	0	0	6	22290
94	0	0	4	14880
95	0	0	6	23039
96	0	0	5	18282
101	0	0	1	3288
TOTAL	252	3639537	573	3959300

A. BASIC PLAN (CONTINUED)

TABLE 6 - RETIRED ON LIMITED PENSION

AGE	MALE		FEMALE	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
56	0	0	1	5938
57	0	0	3	12081
58	0	0	3	12359
59	2	13690	0	0
60	0	0	4	17482
61	1	6985	0	0
62	0	0	5	25537
63	0	0	2	6578
64	0	0	2	18466
65	1	9266	3	22848
66	0	0	4	38825
67	2	21525	2	11591
68	0	0	6	53476
69	0	0	1	7984
70	0	0	1	8030
71	2	16252	6	39179
72	2	7122	4	15965
73	1	3538	8	22345
74	1	470	3	8263
75	0	0	4	16662
76	0	0	1	2925
77	0	0	0	0
78	0	0	2	7656
79	1	3132	0	0
80	0	0	0	0
81	1	3180	3	11016
82	0	0	1	2460
83	0	0	0	0
84	0	0	1	2700
85	0	0	0	0
86	0	0	0	0
87	0	0	1	2738
88	1	2312	0	0
89	0	0	2	5055
90	0	0	0	0
91	0	0	1	2546
TOTAL	15	87472	74	380705

A. BASIC PLAN (CONTINUED)

TABLE 7 - RETIRED ON DISABILITY PENSION

AGE	MALE		FEMALE	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
32	1	22789	0	0
41	0	0	1	16429
42	0	0	0	0
43	0	0	1	9709
50	1	19785	0	0
51	0	0	2	37003
52	1	15216	0	0
53	0	0	0	0
54	0	0	1	5375
55	2	31248	1	18098
56	2	41248	0	0
57	0	0	2	25053
58	1	23358	0	0
59	0	0	0	0
60	1	17030	0	0
61	0	0	0	0
62	1	24504	1	16462
63	0	0	0	0
64	2	33001	1	11604
65	1	16675	2	21165
66	0	0	1	7759
67	0	0	0	0
68	0	0	1	10590
69	0	0	0	0
70	0	0	1	12951
TOTAL	13	244854	15	192198

TABLE 8 - RETIRED WITH REVERSIONARY PENSIONS

AGE	MALE		FEMALE	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
85	1	4403	1	3758
88	0	0	1	4129
TOTAL	1	4403	2	7887

A. BASIC PLAN (CONTINUED)

TABLE 9 - SURVIVOR ANNUITIES

CHILDREN				
NUMBER		ANNUAL PENSION		
15		69787		
REGULAR SURVIVORS				
MALE			FEMALE	
AGE	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
46	0	0	1	5155
47	0	0	2	18449
48	0	0	1	4291
54	0	0	2	13321
56	1	3477	0	0
57	0	0	1	14645
58	0	0	3	24469
59	1	1248	2	15829
60	1	3900	3	25518
61	0	0	1	2520
62	0	0	3	24999
63	1	4017	4	20424
64	0	0	1	5004
65	2	11466	4	30415
66	0	0	1	8192
67	2	8835	2	5541
68	3	22250	1	10659
69	1	4003	2	26613
71	1	6395	2	10093
72	1	6219	2	15084
73	2	11821	2	8203
74	0	0	2	9888
75	0	0	2	11979
76	1	1839	0	0
77	2	5544	2	5069
78	0	0	2	10476
79	2	7113	3	11627
80	1	3407	2	15280
82	0	0	2	12812
84	1	2567	0	0
85	2	6080	1	4734
TOTAL	25	110181	56	371289

REVERSIONARY SURVIVORS

FEMALE		
AGE	NUMBER	ANNUAL PENSION
74	1	1371
78	1	1441
82	1	2685
84	3	7421
88	1	1814
89	1	1479
92	1	3228
TOTAL	9	19439

COORDINATED PLAN

CONSIDERED EARNINGS
(YEAR ENDED DECEMBER 31, 1984)

TABLE 10 - ACTIVE MALE MEMBERS
(AGE AND CREDITED SERVICE AS OF DECEMBER 31, 1984)

<u>AGE</u>	<u>UNDER 1</u>		<u>YEARS OF SERVICE</u>		<u>1</u>		<u>2 TO 4</u>		<u>5 TO 9</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	13	161586	1	16400	0	0	0	0	0	0
25 TO 29	26	297709	6	118968	5	109740	5	98100		
30 TO 34	20	260709	5	90783	16	397300	19	499800		
35 TO 39	20	300434	8	159376	7	163099	17	569735		
40 TO 44	13	118279	3	60367	9	222780	14	478438		
45 TO 49	5	78233	4	78667	2	47000	10	311900		
50 TO 54	9	156123	3	23200	4	98790	5	130300		
55 TO 59	8	65892	0	0	2	30835	3	100583		
60 TO 64	2	10000	0	0	2	41557	0	0		
65 & UP	5	53179	1	12120	0	0	0	0		
<u>TOTAL</u>	121	1502144	31	559881	47	1111101	73	2188856		

<u>AGE</u>	<u>10 TO 14</u>		<u>YEARS OF SERVICE</u>		<u>15 TO 19</u>		<u>20 TO 24</u>		<u>25 TO 29</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	0	0	0	0
35 TO 39	0	0	0	0	0	0	0	0	0	0
40 TO 44	0	0	0	0	0	0	0	0	0	0
45 TO 49	0	0	0	0	0	0	0	0	0	0
50 TO 54	0	0	0	0	0	0	0	0	0	0
55 TO 59	0	0	0	0	0	0	0	0	0	0
60 TO 64	0	0	0	0	0	0	0	0	0	0
65 & UP	0	0	0	0	0	0	0	0	0	0
<u>TOTAL</u>	0	0	0	0	0	0	0	0	0	0

<u>AGE</u>	<u>30 TO 34</u>		<u>YEARS OF SERVICE</u>		<u>35 TO 39</u>		<u>40 & UP</u>		<u>ALL</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	14	177986	
25 TO 29	0	0	0	0	0	0	0	42	624517	
30 TO 34	0	0	0	0	0	0	0	60	1248592	
35 TO 39	0	0	0	0	0	0	0	52	1192644	
40 TO 44	0	0	0	0	0	0	0	39	879864	
45 TO 49	0	0	0	0	0	0	0	21	515800	
50 TO 54	0	0	0	0	0	0	0	21	408413	
55 TO 59	0	0	0	0	0	0	0	13	197310	
60 TO 64	0	0	0	0	0	0	0	4	51557	
65 & UP	0	0	0	0	0	0	0	6	65299	
<u>TOTAL</u>	0	0	0	0	0	0	0	272	5361982	

COORDINATED PLAN (CONTINUED)

CONSIDERED EARNINGS
(YEAR ENDED DECEMBER 31, 1984)

TABLE 11 - ACTIVE FEMALE MEMBERS
(AGE AND CREDITED SERVICE AS OF DECEMBER 31, 1984)

AGE	<u>YEARS OF SERVICE</u>							
	<u>UNDER 1</u>		<u>1</u>		<u>2 TO 4</u>		<u>5 TO 9</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	60	730498	3	51850	0	0	1	8368
25 TO 29	85	1030789	21	374166	43	873435	24	503100
30 TO 34	50	515448	16	311021	40	849922	44	1062740
35 TO 39	51	589461	16	299687	28	636435	42	1176166
40 TO 44	33	395289	10	130675	25	647750	29	936915
45 TO 49	21	194994	11	175720	16	378870	25	765153
50 TO 54	16	160870	6	88780	15	283259	14	376177
55 TO 59	10	114628	3	34960	6	76675	13	293116
60 TO 64	6	72044	1	13067	5	66506	5	152793
65 & UP	1	10000	0	0	2	22133	1	19926
<u>TOTAL</u>	333	3814021	87	1479926	180	3834985	198	5294454

AGE	<u>YEARS OF SERVICE</u>							
	<u>10 TO 14</u>		<u>15 TO 19</u>		<u>20 TO 24</u>		<u>25 TO 29</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	0	0
25 TO 29	0	0	0	0	0	0	0	0
30 TO 34	0	0	0	0	0	0	0	0
35 TO 39	0	0	0	0	0	0	0	0
40 TO 44	0	0	0	0	0	0	0	0
45 TO 49	0	0	0	0	0	0	0	0
50 TO 54	1	31800	0	0	0	0	0	0
55 TO 59	0	0	1	50410	0	0	0	0
60 TO 64	0	0	0	0	0	0	0	0
65 & UP	0	0	0	0	0	0	0	0
<u>TOTAL</u>	1	31800	1	50410	0	0	0	0

AGE	<u>YEARS OF SERVICE</u>							
	<u>30 TO 34</u>		<u>35 TO 39</u>		<u>40 & UP</u>		<u>ALL</u>	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
UNDER 25	0	0	0	0	0	0	64	790716
25 TO 29	0	0	0	0	0	0	173	2781490
30 TO 34	0	0	0	0	0	0	150	2739131
35 TO 39	0	0	0	0	0	0	137	2701749
40 TO 44	0	0	0	0	0	0	97	2110629
45 TO 49	0	0	0	0	0	0	73	1514737
50 TO 54	0	0	0	0	0	0	52	940886
55 TO 59	0	0	0	0	0	0	33	569789
60 TO 64	0	0	0	0	0	0	17	304410
65 & UP	0	0	0	0	0	0	4	52059
<u>TOTAL</u>	0	0	0	0	0	0	800	14505596

B. COORDINATED PLAN (CONTINUED)

TABLE 12 - RETIRED ON SERVICE PENSION

AGE	MALE		FEMALE	
	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
61	0	0	1	4766
62	0	0	0	0
63	1	7592	0	0
64	0	0	0	0
65	0	0	1	12053
66	1	386	0	0
67	0	0	1	4901
68	0	0	1	932
69	0	0	2	11938
70	0	0	1	574
71	0	0	1	1322
TOTAL	2	7978	8	36486

II. FINANCIAL EXHIBITS

II. FINANCIAL EXHIBITS

Table 13 - Financial Balance Sheet
(December 31, 1984)

Assets at Cost

Cash	\$ 81,020.62
Receivables:	
Interest	1,890,822.94
Dividends	172,850.00
Employer Contribution	766,937.65
Repaid Principal	81,479.45
Short-term Notes, at Discounted Value	9,245,330.12
Bonds at Amortized Cost	62,933,169.45
Mortgages at Amortized Cost	2,988,730.67
Real Estate at Amortized Cost	729,766.64
Stocks at Cost	64,931,894.41
Equipment Less Depreciation	10,801.40
Securities Purchase and Withholding Tax Payable	(1,178,584.46)
TOTAL ASSETS	\$142,654,218.89
Members Accumulated Contributions (without interest)	\$ 44,713,484.15
Administration Expenses - 1984	\$ 255,094.73

Current Assets

Cash and Equivalents	\$ 9,372,809.00
Fixed Income Investments	64,915,845.00
Equity Investments	<u>69,311,783.00</u>
TOTAL CURRENT ASSETS	\$143,600,437.00

"Current Assets" means the value of all assets at cost, plus one-third of any unrealized capital gains or losses, plus realized income including realized capital gains or losses pursuant to M.S. 356.215 Sub 4(6)(b).

Table 14 - Reconciliation of Asset Balances
(December 31, 1984)

Asset Balance - December 31, 1983		\$132,517,578.86
Additions:		
Employer Contributions	\$ 8,370,748.68	
Member Contributions	5,478,422.90	
Investment Income	11,790,517.61	
Gain on Sale of Bonds	346,127.01	
Gain on Sale of Stock	3,155,538.75	
Miscellaneous Income	<u>184.81</u>	29,141,539.76
Asset Adjustment Pursuant to M.S. 356.215 Sub 4(6)(b)		<u>946,218.11</u>
Sub-Total		\$162,605,336.73
Deductions:		
Benefit Payments	\$9,464,193.52	
Refunds	1,329,842.92	
Administrative Expenses	255,094.73	
Loss on Sale of Bonds	790,045.15	
Loss on Sale of Stock	<u>1,516,665.20</u>	13,355,841.52
Change in Accounting Method Pursuant to Ch. 383 Laws of MN 1984		<u>5,649,058.21</u>
Asset Balance - December 31, 1984		<u>\$143,600,437.00</u>

Table 15 - Asset Allocation
(December 31, 1984)

	<u>Basic Division</u>	<u>Coordinated Division</u>	<u>Total</u>
Asset Balance 12/31/83	\$127,534,695.42	\$ 4,982,883.44	\$132,517,578.86
(a) Employer Con- tributions (1)	7,625,732.04	745,016.64	8,370,748.68
(b) Employee Con- tributions	4,741,379.12	737,043.78	5,478,422.90
(c) Benefits Paid	(9,416,202.22)	(47,991.30)	(9,464,193.52)
(d) Refunds (2)	(1,082,237.62)	(247,605.30)	(1,329,842.92)
(e) Net	<u>1,868,671.32</u>	<u>1,186,463.82</u>	<u>3,055,135.14</u>
(f) Investment Income (3)	7,938,262.57	344,555.16	8,282,817.73
(g) Administrative Expenses	(185,687.50)	(69,407.23)	(255,094.73)
(h) Net: (f) + (g)	<u>7,752,575.07</u>	<u>275,147.93</u>	<u>8,027,723.00</u>
(i) Increase for Year (e) + (h)	9,621,246.39	1,461,611.75	11,082,858.14
Asset Balance 12/31/84	<u>\$137,155,941.81</u>	<u>\$ 6,444,495.19</u>	<u>\$143,600,437.00</u>
(1) Includes 1983 reduction loss of investment income reimbursed by the State of Minnesota during 1984 of \$305,684.80. This was allocated to the divisions based on asset balance at 12/31/83.			
(2) Includes return of 2% additional contributions required during January-June 1983.			
(3) Includes asset adjustment pursuant to M.S. 356.215 Sub 4(6)(b) and change in accounting method pursuant to Ch. 383 Laws of MN 1984.			

III. ACTUARIAL STATUS OF PLANS

III. ACTUARIAL STATUS OF PLANS

The actuarial cost method used to determine the funding pattern for these plans is called the "Entry Age Normal" cost method. Under this method, the Accrued Liability is determined by taking the excess of the present value of projected benefits over the present value of future normal costs. The Accrued Liability is a measure of the assets that would be accumulated in the Plans if all past contribution requirements had been fully funded and all actuarial assumptions had been realized. The Unfunded Liability is defined as the difference between the Accrued Liability and the assets at the valuation date.

We will determine the Present Value of Plan Benefits, the Accrued Liability, the Entry Age Normal level contribution requirement (Normal Cost), and the contribution required to amortization the Unfunded Liability by the year 2009. Both normal cost and amortized are computed on a "level percent of pay" basis. We will then compare those contribution requirements with the Statutory Contribution Rate to determine the sufficiency of current contributions. We will also analyze the change in the Unfunded Liability over the last year. These calculations will be presented for the Basic Plan and Coordinated Plan combined in subsection A, followed by computations for each Plan separately in subsections B and C.

Bonus Payment are made to Teachers and Beneficiaries currently receiving benefits if the investment return exceeds 5-1/2%. The payments equal the investment return in excess of 5-1/2% capped at a bonus of 1/2% of assets each year. In previous valuations, the assumed interest rate was 5%, and no bonus payment liability was recognized. For this valuation, the interest rate is 8%. We have calculated the bonus payment liability on an approximate method as described below. Our method was approved by the Legislative Commission on Pensions and Retirement (LCPR) at its September 24, 1984 meeting.

- (1) The benefit equals 1/2% of assets each year. Therefore, the present value of the benefit equals the present value of 1/2% of future plan assets in each year.
- (2) Assets = (EAN accrued liability) - (unfunded accrued liability) allows an expression of assets in terms of AL - UAL.

- (3) Therefore, the present value of 1/2% future assets in all years = (EAN accrued liability* at 7-1/2% interest less EAN accrued liability* at 8% interest) -

$$(1/2\% \sum_{y=1985}^{2017} UAL*_y \text{ at } 8\% \text{ interest} \times \frac{1}{1.08}^{(y-1985)})$$

UAL* 1985 will be calculated exactly. For y = 1986 and later, UAL will be determined by creating an amortization schedule that would exactly fund the UAL by 2009, using open group level percent of pay amortization (i.e., an effective interest rate of 1.08/1.065 - 1 = 1.4085%, consistent with the example given in Rule 4).

* Calculated without respect to the bonus payment benefit.

A. BASIC AND COORDINATED PLANS COMBINED

Table 16 - Present Value of Future Benefits
(December 31, 1984)

Present Value of Benefits Expected to be Paid by Retirement Fund to:

(a) Active Teachers:

Retirement	\$199,233,649	
Disability	12,145,829	
Survivorship	7,684,878	
Refund	16,640,476	
Bonus Payments	<u>7,304,217</u>	
Total		\$243,009,049

(b) Vested Teachers 394,260

(c) Teachers on Leave 2,057,425

(d) Former Teachers without Vested Rights 419,152

(e) Teachers and Beneficiaries
Now Receiving Benefits:

Retirement	\$ 67,960,769	
Disability	2,309,003	
Survivorship	4,160,716	
Bonus Payments	<u>2,517,488</u>	
Total		\$ 76,947,976

Total Present Value of Benefits \$322,827,862

Table 17 - Unfunded Liability

(a) Present Value of Benefits	\$322,827,862
(b) Present Value of Future Normal Costs	\$62,718,876
(c) Accrued Liability (a) - (b)	260,108,986
(d) Assets	143,600,437
(e) Unfunded Liability (c) - (d)	116,508,549

A. BASIC AND COORDINATED PLANS COMBINED (continued)

Table 18 - Rate Requirement for Amortization
of Unfunded Liability

Amount to be Amortized	\$116,508,549
Contribution Requirement for Amortization Period of 25 Years on an Open Group level Percent of Pay Basis (Beginning of Year)	5,484,075
Current Payroll	75,982,828
Amortization Rate Requirement (Beginning of Year)	7.2175%
Amortization Rate Requirement (Mid-Year)	7.5062%

Table 19 - Level Contribution (Entry Age Normal)
Rate Requirement

Entry Age Normal Rate Requirement in Dollars (Beginning of Year)	\$ 6,386,081
Current Payroll	75,982,828
Entry Age Normal Rate Requirement as a Percent of Pay (Beginning of Year)	8.4046%
Adjustment for Mid-Year Payment	.3362%
Teacher Contribution Rate*	<u>7.0477%</u>
Employer Entry Age Normal Rate Requirement	1.6931%

Table 20 - Actuarial Balance

Employer Statutory Contribution Rate**	10.4180%
Rate Requirements	
Amortization Rate Requirement	7.5062%
Entry Age Normal Rate Requirement	1.6931%
Expenses Rate Requirement	<u>.3357%</u>
Total Rate Requirement	<u>9.5350%</u>
Deficit (surplus) of Statutory Rate over Rate Requirement	(<u>.8830%</u>)

* Weighted by Current Payroll, 72.79% Basic and 27.21% Coordinated.

** Rate established by Minnesota Statute, 12.63% Basic and 4.5% Coordinated, weighted by Current Payroll.

A. BASIC AND COORDINATED PLANS COMBINED (continued)

Table 21 - Statement of Revenue, Expenditures, and
Changes in Unfunded Liability
(Year Ended December 31, 1984)

(a) Revenue:			
Employer Contributions	\$ 8,370,748.68		
Employee Contributions	5,478,422.90		
Net Investment Income	<u>8,282,817.73</u>		
Total Revenue			\$22,131,989.31
(b) Expenditures:			
Benefits	9,464,193.52		
Refund of Dues	1,329,842.92		
Administrative Expenses	<u>255,094.73</u>		
Total Expenditures			<u>\$11,049,131.17</u>
(c) Increase in Assets (1984): (a) - (b)			11,082,858.14
(d) Increase in Accrued Liability			
(i) Accrued Liability			
at 12/31/84	260,108,986.00		
(ii) Accrued Liability			
at 12/31/83	<u>286,416,780.00</u>		
(iii) Increase (Decrease)			(26,307,794.00)
(e) Increase (Decrease) in Unfunded Liability			
			<u>\$(37,390,652.14)</u>

A. BASIC AND COORDINATED PLANS COMBINED (continued)

Table 22 - Analysis of Increase (Decrease) in
Unfunded Liability
(December 31, 1984)

(a)	Change in Earnings in Excess of 3.5%	\$6,727,447
(b)	Principal of Unfunded Liability Anticipated in Total Rate Requirement	(3,546,228)
(c)	Difference between expected statutory and actual contributions	(1,251,652)
(d)	Deficiency in Total Rate Requirement over Statutory Rate	<u>5,639,912</u>
(e)	Increase Due to Amortization	842,032
(f)	Investment Income in Excess of 5%: Loss (Gain) on old asset valuation method	(6,289,777)
(g)	Experience Variation: Loss (Gain)	7,033,296
(h)	Change in definition of valuation payroll	8,922,148
(i)	Change in actuarial assumptions and plan amendments	(70,409,178)
(j)	Change to directly value bonus payment	9,821,705
(k)	Change in asset valuation method (equals change in accounting method less asset adjustment)	4,702,840
(l)	Rule of 85 plan amendment	<u>1,258,835</u>
(m)	Total Increase (Decrease)	<u><u>\$ (37,390,652)</u></u>

B. BASIC PLAN

Table 23 - Present Value of Future Benefits
(December 31, 1984)

Present Value of Benefit Expected to be Paid by Retirement Fund to:

(a) Active Teachers:

Retirement	\$186,251,251
Disability	11,355,021
Survivorship	7,337,281
Refund	14,216,669
Bonus Payment	<u>6,753,812</u>

Total	\$225,914,034
-------	---------------

(b) Vested Teachers	394,260
---------------------	---------

(c) Teachers on Leave	1,967,936
-----------------------	-----------

(d) Former Teachers without Vested Rights	189,751
--	---------

(e) Teachers and Beneficiaries
Now Receiving Benefits:

Retirement	\$67,574,541
Disability	2,309,003
Survivorship	4,160,716
Bonus Payment	<u>2,505,510</u>

Total	\$ 76,549,770
-------	---------------

Total Present Value of Benefits	<u>\$305,015,751</u>
---------------------------------	----------------------

Table 24 - Unfunded Liability

(a) Present Value of Benefits	\$305,015,751
-------------------------------	---------------

(b) Present Value of Future Normal Costs	52,188,560
---	------------

(c) Accrued Liability (a) - (b)	252,827,191
---------------------------------	-------------

(d) Assets	137,155,942
------------	-------------

(e) Unfunded Liability (c) - (d)	115,671,249
----------------------------------	-------------

B. BASIC PLAN (continued)

Table 25 - Rate Requirement for Amortization
of Unfunded Liability

Amount to be Amortized	\$115,671,249
Contribution Requirement for Amortization Period of 25 Years on an Open Group Level Percent of Pay Basis (Beginning of Year)	5,444,663
Current Payroll	55,309,106
Amortization Rate Requirement (Beginning of Year)	9.8441%
Amortization Rate Requirement (Mid-Year)	10.2378%

Table 26 - Level Contribution (Entry Age Normal)
Rate Requirement

Entry Age Normal Rate Requirement in Dollars (Beginning of Year)	\$ 5,489,990
Current Payroll	55,309,106
Entry Age Normal Rate Requirement as a Percent of Pay (Beginning of Year)	9.9260%
Adjustment for Mid-Year Payment	.3970%
Teacher Contribution Rate	<u>8.0000%</u>
Employer Entry Age Normal Rate Requirement	<u>2.3230%</u>

Table 27 - Actuarial Balance

Employer Statutory Contribution Rate*	12.6300%
Rate Requirements	
Amortization Rate Requirements	10.2378%
Entry Age Normal Rate Requirement	2.3231%
Expenses Rate Requirement	<u>.3357%</u>
Total Rate Requirement	<u>12.8966%</u>
Deficit (surplus) of Statutory Rate over Rate Requirement	<u>.2666%</u>

* Rate Established by Minnesota Statute.

B. BASIC PLAN (continued)

Table 28 - Statement of Revenue, Expenditures, and
Changes in Unfunded Liability
(Year Ended December 31, 1984)

(a) Revenue:			
Employer Contributions	\$ 7,625,732.04		
Employee Contributions	4,741,379.12		
Net Investment Income	<u>7,938,262.57</u>		
Total Revenue			\$20,305,373.73
(b) Expenditures:			
Benefits	9,416,202.22		
Refund of Dues	1,082,237.62		
Administrative Expenses	<u>185,687.50</u>		
Total Expenditures			<u>\$10,684,127.34</u>
(c) Increase in Assets (1984): (a) - (b)			9,621,246.39
(d) Increase in Accrued Liability			
(i) Accrued Liability			
at 12/31/84	252,827,191.00		
(ii) Accrued Liability			
at 12/31/83	<u>279,522,901.00</u>		
(iii) Increase (Decrease)			(26,695,710.00)
(e) Increase (Decrease) in Unfunded Liability			<u>\$(36,316,956.39)</u>

A. BASIC PLAN (continued)

Table 29 - Analysis of Increase (Decrease) in
Unfunded Liability
(December 31, 1984)

(a)	Change in Earnings in Excess of 3.5%	\$5,781,732
(b)	Principal of Unfunded Liability Anticipated in Total Rate Requirement	(3,502,194)
(c)	Difference between expected statutory and actual contributions	(1,200,298)
(d)	Deficiency in Total Rate Requirement over Statutory Rate	<u>6,027,038</u>
(e)	Increase Due to Amortization	1,324,546
(f)	Investment Income in Excess of 5%: Loss (Gain) on old asset valuation method	(6,026,661)
(g)	Experience Variation: Loss (Gain)	7,443,968
(h)	Change in definition of valuation payroll	8,608,559
(i)	Change in actuarial assumptions	(68,474,465)
(j)	Change to directly value bonus payment	9,259,322
(k)	Change in asset valuation method (equals change in accounting method less asset adjustment allocated to divisions on same basis as investment income)	4,507,208
(l)	Rule of 85 Plan Amendment	<u>1,258,835</u>
(m)	Total Increase (Decrease)	<u><u>\$(36,316,956)</u></u>

C. COORDINATED PLAN

Table 30 - Present Value of Future Benefits
(December 31, 1984)

Present Value of Benefits Expected to be Paid by Retirement Fund to:

(a) Active Teachers:

Retirement	\$12,982,398	
Disability	790,808	
Survivorship	347,597	
Refund	2,423,807	
Bonus Payment	<u>550,405</u>	
Total		\$17,095,015

(b) Vested Teachers 0

(c) Teachers on Leave 89,489

(d) Former Teachers without Vested Rights 229,401

(e) Teachers and Beneficiaries
Now Receiving Benefits:

Retirement	\$386,228	
Disability	0	
Survivorship	0	
Bonus Payment	<u>11,978</u>	
Total		\$ 398,206

Total Present Value of Benefits \$17,812,111

Table 31 - Unfunded Liability

(a) Present Value of Benefits	\$17,812,111
(b) Present Value of Future Normal Costs	10,530,316
(c) Accrued Liability (a) - (b)	7,281,795
(d) Assets	6,444,495
(e) Unfunded Liability (c) - (d)	837,300

C. COORDINATED PLAN (continued)

Table 32 - Rate Requirement for Amortization
of Unfunded Liability

Amount to be Amortized	\$837,300
Contribution Requirement for Amortization Period of 25 Years on an Open Group Level Percent of Pay Basis (Beginning of Year)	39,412
Current Payroll	20,673,722
Amortization Rate Requirement (Beginning of Year)	.1906%
Amortization Rate Requirement (Mid-Year)	.1983%

Table 33 - Level Contribution (Entry Age Normal)
Rate Requirement

Entry Age Normal Rate Requirement in Dollars (Beginning of Year)	\$ 896,091
Current Payroll	20,673,722
Entry Age Normal Rate Requirement as a Percent of Pay (Beginning of Year)	4.3344%
Adjustment for Mid-Year Payment	.1734%
Teacher Contribution Rate*	<u>4.5000%</u>
Employer Entry Age Normal Rate Requirement	<u>.0078%</u>

Table 34 - Actuarial Balance

Employer Statutory Contribution Rate**	4.5000%
Rate Requirements	
Amortization Rate Requirements	.1983%
Entry Age Normal Rate Requirement	.0078%
Expenses Rate Requirement	<u>.3357%</u>
Total Rate Requirement	<u>.5418%</u>
Deficit (surplus) of Statutory Rate over Rate Requirement	(<u>3.9582%</u>)

** Rate Established by Minnesota Statute.

C. COORDINATED PLAN (continued)

Table 35 - Statement of Revenue, Expenditures, and
Changes in Unfunded Liability
(Year Ended December 31, 1984)

(a) Revenue:			
Employer Contributions	\$	745,016.64	
Employee Contributions		737,043.78	
Net Investment Income		<u>344,555.16</u>	
Total Revenue			\$1,826,615.58
(b) Expenditures:			
Benefits		47,991.30	
Refund of Dues		247,605.30	
Administrative Expenses		<u>69,407.23</u>	
Total Expenditures			<u>\$ 365,003.83</u>
(c) Increase in Assets (1984): (a) - (b)			1,461,611.75
(d) Increase in Accrued Liability			
(i) Accrued Liability at 12/31/84		7,281,795.00	
(ii) Accrued Liability at 12/31/83		<u>6,893,879.00</u>	
(iii) Increase (Decrease)			387,916.00
(e) Increase (Decrease) in Unfunded Liability			<u>\$(1,073,695.75)</u>

C. COORDINATED PLAN (continued)

Table 36 - Analysis of Increase (Decrease) in
Unfunded Liability
(December 31, 1984)

(a)	Change in Earnings in Excess of 3.5%	\$ 945,715
(b)	Principal of Unfunded Liability Anticipated in Total Rate Requirement	(44,034)
(c)	Difference between expected statutory and actual contributions	(51,354)
(d)	Deficiency surplus in Total Rate Requirement over Statutory Rate	<u>(387,126)</u>
(e)	Increase (Decrease) Due to Amortization	(482,514)
(f)	Investment Income in Excess of 5%: Loss (Gain) on old asset valuation method	(263,116)
(g)	Experience Variation: Loss (Gain)	(410,672)
(h)	Change in definition of valuation payroll	313,589
(i)	Change in actuarial assumptions	(1,934,713)
(j)	Change to directly value bonus payment	562,383
(k)	Change in asset valuation method (equals change in accounting method less asset adjustment allocated to divisions on same basis as investment income)	195,632
(l)	Total Increase (Decrease)	<u><u>\$(1,073,696)</u></u>

Note: No one eligible for Rule of 85.

IV. SUMMARY OF PRINCIPAL PROVISIONS
OF THE PLANS

IV. SUMMARY OF PRINCIPAL PROVISIONS OF THE PLANS

BASIC DIVISION

1. Name

St. Paul Teachers' Retirement Fund Association.

2. Type of Plan

Self-insured, managed by a Board of Trustees consisting of the Chairman of the Board of Education, 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 in the St. Paul Public Schools in a position covered by a certificate issued by the Minnesota State Department of Education and not covered under Section 218 of the Social Security Act.

5. Service Considered for Benefits

All periods of service for which salary deductions were made and service during sabbatical leave. After June 30, 1974, St. Paul service for part-time teachers is granted on a proportional basis of actual duty days to the agreed number of annual duty days. Years of service credited prior to May 31, 1976 shall not be recomputed.

6. Earnings Considered

Annual total salary. Average salary based on the five years during the last 10 years of St. Paul service which produce 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

12.63% of payroll.

8. Employee Contributions

8% of annual total salary including 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 1, 1978.

9. Normal Retirement Benefit

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

Pension equal to 2% of average salary multiplied by the number of years of service; such accredited service limited to a maximum of 40 years.

10. Rule of 85

If age plus years of service is greater than or equal to 85 and age is at least 55, the employee may retire with no early retirement reductions. This option is open until December 31, 1986.

11. Limited Service Benefit

Upon attainment of age 55 and completion of 10 years of service but less than 25 years of service. Annuity determined as for Normal Retirement considering service and earnings to actual retirement, and reduced (i) by 1/2 of 1% for each of the first 60 months, and (ii) by 1/4 of 1% for each additional month or major fraction thereof between date upon which payment begins and attainment of age 65.

12. 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 date upon which payment begins and attainment of age 60.

13. 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 for 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.

14. Deferred Vested Benefit

In the event of termination after completion of ten years of service. Annuity determined as for Limited Service Benefit above, augmented by interest compounded annually at the rate of 5% until January 1, 1981 and thereafter at the rate of 3%.

15. Death Benefit

Active

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

(i) For each dependent 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 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, 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.

16. 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 a 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.

In (a) above, if the member terminates and has completed the probationary employment period under the applicable teacher tenure law, all amounts payable after the probationary period are credited with interest in a manner to be determined by the Board of Trustees.

17. Savings 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.

18. Proportionate Annuity

At age 65 or under a mandatory retirement statute. Annuity determined as for Normal Retirement based on service prior to termination.

19. Combined Service

Service totally 10 or more years in any Minnesota funds with the same provision shall be entitled to an annuity from each fund based on their respective service in each fund.

20. State Funded Retiree Increases

Minnesota Statutes Law 1976, Chapter 326 provided increases to certain retirees based on service at retirement and years of retirement. The cost of these increases was provided by an appropriation from the general fund in the State Treasury.

21. Bonus Payment

For each year during which investment income of the fund exceeds 5-1/2% of the asset value at the end of the year, a lump sum payment to each retired member and survivor who has received an annuity for at least three years. Amount determined by prorating 1/2% of the asset value by total years of service of eligible annuitants.

COORDINATED DIVISION

1. Name

St. Paul Teachers' Retirement Fund Association.

2. Type of Plan

Self-insured, managed by a Board of Trustees consisting of the 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 in the St. Paul Public Schools in a position covered by a certificate issued by the Minnesota State Department of Education who either elected coverage under Section 218 of the Social Security Act, or who were automatically so covered.

5. Service Considered for Benefits

All periods of service for which salary deductions were made and service during sabbatical leave. After June 30, 1974, St. Paul service for part-time teachers is granted on a proportional basis of actual duty days to the agreed number of annual duty days. Years of service credited prior to May 31, 1976 shall not be recomputed.

6. Earnings Considered

Annual total salary. Average salary based on the five successive years of St. Paul service which produce the highest average. For any member employed on a part-time basis during any of the five 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

Four and one half percent of pay excluding Social Security taxes.

8. Employee Contributions

Four and one half percent of annual total salary including salary otherwise payable to a member on sabbatical leave.

9. Normal Retirement Benefit

Age 65 and completion of 10 years of service or after attainment of age 62 and completion of 30 years of service.

Pension equal to 1% of average salary for each of the first 10 years of accredited service, plus 1-1/2% average salary for each year of accredited service in excess of 10 years; such accredited service limited to a maximum of 40 years.

10. Rule of 85

If age plus years of service is greater than or equal to 85 and age is at least 55, the employee may retire with no early retirement reductions. This option is open until December 31, 1986.

11. Early Retirement Benefit

After completion of 30 years of service or attainment of age 55 and completion of 10 years of service. Annuity determined as for Normal Retirement considering service and earnings to actual retirement. For member with less than 30 years of service, annuities are reduced by 1/2% per month for each month under age 65 and by 1/4% per month for each month under age 60. For member with 30 years of service, annuities are reduced by 1/2% per month for each month under age 62 and by 1/4% per month for each month under age 60.

12. Disability Benefit

In the event of total and permanent disability after completion of 10 years of service or after attainment of age 50 and completion of five years of service, with average salary of at least \$75 per month.

The benefit is computed as for Normal Retirement considering average salary and accredited service at time of disability. Disability recipients automatically assume retirement status at age 65 with the right to choose a life annuity equal to their disability benefit or to choose an optional annuity plan with provisions for payment to beneficiaries.

13. Deferred Vested Benefit

In the event of termination after completion of ten years of service. Annuity determined as for Normal Retirement payable at minimum retirement age, augmented by interest compounded annually at the rate of 5% until January 1, 1981 and thereafter at the rate of 3%.

14. Death Benefit

Active

After completion of 30 years of service or attainment of age 55 and completion of 20 years of service, a joint and survivor annuity payable to the surviving spouse in the event of death prior to retirement.

Retired

Upon retirement a member may elect an optional annuity to provide a reduced pension payable for life and survivor benefit to a contingent annuitant.

15. Cash Refund of Dues

- (a) Upon termination of an active member prior to eligibility for any other pension, the full amount of his dues will be returned to him. If he is age 65 and elects refund of dues in lieu of proportionate annuity, interest will be credited on the contributions.
- (b) Upon death of an active member prior to eligibility for any other pension, the full amount of his dues plus 5% interest, will be returned to his beneficiary. (Changed retroactively from 3-1/2% interest effective July 1, 1984.)

16. Proportionate Annuity

At age 65 or under a mandatory retirement statute. Annuity determined as for Normal Retirement based on service prior to termination.

17. Combined Service

Service totaling 10 or more years in any Minnesota funds with the same provision shall be entitled to an annuity from each fund based on their respective service in each fund.

18. Optional Annuity Plans

In lieu of a lifetime monthly annuity, a member may elect to convert his pension into an actuarially equivalent optional pension in the form of a 100% joint and survivor benefit, 50% joint and survivor benefit, 15 years' certain and life benefit, a guaranteed refund benefit, a Social Security leveling option, or a joint and survivor option. If such an option is elected and the contingent annuitant predeceases the member, the member will thereafter receive the unreduced benefit amount.

19. Bonus Payment

For each year during which investment income of the fund exceeds 5-1/2% of the asset value at the end of the year, a lump sum payment to each retired member and survivor who has received an annuity for at least three years. Amount determined by prorating 1/2% of the asset value by total years of service of eligible annuitants.

V. STATEMENT OF ACTUARIAL ASSUMPTIONS

V. STATEMENT OF ACTUARIAL ASSUMPTIONS

Based on the experience analysis through December 31, 1982, the following assumptions have been used in determining the actuarial liabilities of the Fund:

Interest:	New:	8% per annum, compounded annually.
	Current:	5% per annum, compounded annually.

Mortality:	New:	1983 Group Annuity Mortality Table, set forward one year for females.
	Current:	Group Annuity Table for 1951 projected with scale C through 1965.

See following tables.

Post-Disablement
Mortality:

New:	1983 Group Annuity Mortality Table, set forward 10 years for males and 11 years for females.
Current:	Group Annuity Table for 1951 projected with scale C to 1965, set forward 10 years.

Assumed Retirement		
Age:	New:	Later of age 62 and age for unreduced normal retirement benefits. If at or over retirement age, assumed to retire one year after valuation date.
	Current:	Age 65. If age 65 or over, assumed to retire at valuation date.

Rule of 85 Retirement: New: 25% of those eligible to retire under Rule of 85 at valuation date are assumed to retire immediately. 25% of those becoming eligible by December 31, 1986 assumed to retire as soon as eligible.

Disability: See following tables.

Separation: See following tables.

Valuation
Payroll: Use "Contract Pay" as of the valuation date
 adjusted for any contract changes not yet
 reflected in the participant data (a 5% increase
 was used at 12/31/83; no adjustment at 12/31/84)
 and for extracurricular and long-service bonuses
 (not recognized at 12/31/83; a 4.11% increase
 was used at 12/31/84).

Salary Scale: New: 6-1/2% per annum, compounded annually.
 Current: 3-1/2% per annum, compounded annually.

Social Security
Disability

Benefit Offset: New: Based on the present law and 6-1/2%
 salary scale applicable on current
 salaries. The wage base is assumed to
 increase at 5-1/2% per annum and the
 Cost-of-Living Adjustment is assumed
 to increase at 5% per annum.
 Current: Based on the present law and 3-1/2%
 salary scale applicable on current
 salaries. The wage base is assumed to
 increase at 3-1/2% per annum and the
 Cost-of-Living Adjustment is assumed
 to increase at 3% per annum.

Assumed Survivor

Status: Assumed married - 85% of males.
 - 60% of females.
 Female is assumed to be 4 years younger.

Contribution

Refund: All participants who terminate other than by
 death, disability, or retirement are assumed to
 take refund of contributions.

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

MORTALITY RATES

(Per 1,000 Employees)

Male Employees

<u>Age</u>	<u>Current Rate</u>	<u>New Rate</u>	<u>Age</u>	<u>Current Rate</u>	<u>New Rate</u>
20	.517	.377	45	3.002	2.183
21	.537	.392	46	3.409	2.471
22	.558	.408	47	3.856	2.790
23	.581	.424	48	4.344	3.138
24	.607	.444	49	4.869	3.513
25	.636	.464	50	5.429	3.909
26	.667	.488	51	6.027	4.324
27	.703	.513	52	6.656	4.755
28	.742	.542	53	7.321	5.200
29	.784	.572	54	8.019	5.660
30	.831	.607	55	8.751	6.131
31	.884	.645	56	9.514	6.618
32	.941	.687	57	10.312	7.139
33	1.005	.734	58	11.154	7.719
34	1.074	.785	59	12.057	8.384
35	1.152	.860	60	13.043	9.158
36	1.237	.907	61	14.143	10.064
37	1.331	.966	62	15.390	11.133
38	1.435	1.039	63	16.828	12.391
39	1.550	1.128	64	18.504	13.868
40	1.677	1.238	65	20.475	15.592
41	1.838	1.370			
42	2.054	1.527			
43	2.322	1.715			
44	2.639	1.932			

MORTALITY RATES
(Per 1,000 Employees)
Female Employees

<u>Age</u>	<u>Current Rate</u>	<u>New Rate</u>	<u>Age</u>	<u>Current Rate</u>	<u>New Rate</u>
20	.311	.201	45	1.672	1.117
21	.330	.212	46	1.819	1.237
22	.349	.225	47	1.980	1.366
23	.369	.239	48	2.158	1.505
24	.392	.253	49	2.355	1.647
25	.415	.268	50	2.574	1.793
26	.439	.284	51	2.783	1.949
27	.466	.302	52	3.016	2.120
28	.496	.320	53	3.277	2.315
29	.527	.342	54	3.570	2.541
30	.561	.364	55	3.898	2.803
31	.597	.388	56	4.278	3.103
32	.637	.414	57	4.727	3.443
33	.681	.443	58	5.253	3.821
34	.728	.476	59	5.867	4.241
35	.780	.502	60	6.572	4.703
36	.836	.536	61	7.369	5.210
37	.898	.573	62	8.258	5.769
38	.966	.617	63	9.232	6.386
39	1.040	.665	64	10.284	7.064
40	1.122	.716	65	11.402	7.817
41	1.213	.775			
42	1.311	.842			
43	1.420	.919			
44	1.540	1.010			

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		

SEPARATION RATES
(Per 1,000 Employees)
Male Employees

<u>Age</u>	<u>Current Rate</u>	<u>New Rate</u>	<u>Age</u>	<u>Current Rate</u>	<u>New Rate</u>
20	191	60	40	25	35
21	177	60	41	23	34
22	163	60	42	21	33
23	149	60	43	19	32
24	135	60	44	17	31
25	122	60	45	16	30
26	112	60	46	16	28
27	102	60	47	15	26
28	92	60	48	14	24
29	83	60	49	13	22
30	74	60	50	12	20
31	67	57	51	12	18
32	61	54	52	11	16
33	55	51	53	11	14
34	49	48	54	10	12
35	43	45	55	9	10
36	39	43	56	7	8
37	35	41	57	5	6
38	31	39	58	3	4
39	28	37	59	1	2

SEPARATION RATES

(Per 1,000 Employees)

Female Employees

<u>Age</u>	<u>Current Rate</u>	<u>New Rate</u>	<u>Age</u>	<u>Current Rate</u>	<u>New Rate</u>
20	275	100	40	80	80
21	271	100	41	72	72
22	267	100	42	64	64
23	263	100	43	56	56
24	259	100	44	49	53
25	255	100	45	42	50
26	247	100	46	37	46
27	239	100	47	32	42
28	231	100	48	27	38
29	222	100	49	23	34
30	213	100	50	19	30
31	199	100	51	16	26
32	185	100	52	14	22
33	171	100	53	12	18
34	157	100	54	10	14
35	142	100	55	8	10
36	129	96	56	6	8
37	116	92	57	4	6
38	104	88	58	2	4
39	92	84	59	1	2

VI. ACTUARIAL BALANCE SHEET PURSUANT TO
M.S. 356-215 Sub 4 (6)

VI. ACTUARIAL BALANCE SHEET PURSUANT TO
M.S. 356.215 Sub 4 (6)
(Year Ended - December 31, 1984)

Current and Expected Future Assets

Current assets:	
Cash and equivalents	\$ 9,372,809
Fixed income investments	64,915,845
Equity investments	<u>69,311,783</u>
Total current assets	\$143,600,437
Expected future assets	
Present value of expected future statutory supplemental contributions	\$135,422,375
Present value of future normal costs and employees' future contributions	<u>62,718,876</u>
Total expected future assets	\$198,141,251
Total current and expected future assets	\$341,741,688

Current and Expected Future Benefit Obligations

Current benefit obligations	
Actuarial value of benefit obligations on account service rendered to date:	
For annuitants	
Retirement annuities	\$ 67,960,769
Disability annuities	2,309,003
Surviving Spouses' and childrens' annuities	4,160,716
Expected Bonus Payments	2,517,488
For former members without vested rights	419,152
For deferred annuitant's benefits	394,260
For members on leave absence	2,057,425
For active employees*	
Retirement benefits	145,465,328
Disability benefits	443,117
Refund liability due to death or withdrawal	2,168,577
Survivors' benefit	<u>212,639</u>
Total current benefit obligations	\$228,108,474
Expected future benefit obligations	
Actuarial value of benefit obligations on account of future service for active employees	
	\$104,719,388
Total current and expected future benefit obligations	\$322,827,862

Current unfunded liability

(Total current benefit obligations less total current assets):	\$84,508,037
Current and future unfunded liability (surplus) (Total current and expected future benefit obligations less total current and expected future assets):	\$(18,913,826)

* No turnover assumed for any active member who is currently vested pursuant to the Legislative Commission on Pensions and Retirement Rule 15.c.