

ACTUARIAL VALUATION REPORT as of December 31, 1979

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COMPENSATION & CAPITAL

INCORPORATED

49 SHERWOOD TERRACE

LAKE BLUFF, ILLINOIS 60044

TELEPHONE 312 234-9050

April 29, 1980

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, 1979, 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,

Fellow, Society of Actuaries

Enrolled Actuary No. 174

DHR:rs

Chicago

COMMENTS

This report sets forth the information of 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 1/28 per year, and an assumed interest of 5% per year.

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". This valuation takes into account the 1979 amendments to Minnesota Laws Chapter 356.215 and Chapter 354A including the change in amortization period and the augmentation of deferred benefits.

Exhibits 5, 9 and 13 show the present value of benefits for past and future service of active members, and current benefits being received by retirees (and beneficiaries).

Exhibits 6, 10 and 14 also indicate an amount of Unfunded Accumulated Contribution—Requirement of \$115,965,025. This amount represents an increase of \$7,741,991. The primary reasons for the increase are estimated in Exhibits 8, 12 and 16.

Exhibits 6, 10 and 14 restate the dollar amount of obligation in Exhibits 5, 9 and 13, respectively, 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.

The state teachers' levy of 11.5149% is well short of the actuarial requirement of 18.6664% (Exhibit 6). While the deficit of \$4 million is smaller than last year, this arises out of the lengthening of the amortization period from 18 to 30 years rather than an improvement in the financial status of the Plan. The Coordinated program also shows a small deficit so that the shift between the Basic and Coordinated systems, as time goes on, will not cure the shortfall. The principal effect of the substitution of the Coordinated for the Basic program will be to highlight the financial strain on the Association to meet the peaking benefit payments over the next two decades and to emphasize the need for more adequate financing.

FINANCIAL EXHIBITS

EXHIBIT 1

Teachers' Retirement Fund Association St. Paul, Minnesota

FINANCIAL BALANCE SHEET (December 31, 1979)

A S S E T S

Cash		\$	8,738.90
Receivables Interest Dividends Employer Contribution	\$812,215.65 78,882.50 620,135.24	1,	,511,233.39
Short-Term Notes, at Discounted Value		24	,631,030.70
Bonds, at Amortized Cost		36,	264,235.59
Stocks, at Cost		15,	116,718.67
Deferred Yield Adjustment Acco	unt	2,	098,344.17
Furniture and Equipment Less Depreciation			4,470.85
Administrative Expenses Payabl	е		(11,912.22)
TOTAL ASSETS		<u>\$79</u> ,	622,860.05
Members Accumulated Contributi (without interest)	ons	\$30 ,	896,651.14
Administration Expenses 1979 -	\$185,999.43		

SOURCES AND USES OF FUNDS

SOURCES

Cash Balance January 1, 1979		\$ 9,309.24
Income from Employer Contribution: State of Minnesota-Basic -Coordinated Federal Programs -Basic -Coordinated	\$5,614,748.96 312,691.24 525,617.69 68,781.40	6,521,839.29
Income from Members: Payroll Deductions-Basic	\$3,853,815.92 299,652.64 4,956.56 1,785.49	\$ 4,160,210.61
Interest Dividends Miscellaneous	\$5,351,674.09 745,457.85 3,972.78	\$ -6,101,104.72
Investments Sold		\$233,093,350.20
Total		\$249,885,814.06
USE	<u>S</u>	
Pension Paid: Retirements Survivor Family Disability	\$5,623,029.35 178,223.59 96,136.01 342,919.64	\$ 6,240,308.59
Refunds of Dues		\$ 536,632.00
Administrative Expenses: Actuarial, Auditing, Legal Data Processing Delegate Expense Investment Services Office Equipment Office Expense Salaries Taxes, Insurance, Affiliate Dues Accounts Payable - Withheld Taxes	\$ 21,931.00 5,812.50 5,400.00 44,839.42 564.00 12,603.40 88,841.44 13,522.14 (6,112.22)	\$ 187,401.68
Refund - Federal Programs		\$ 49,614.64
Investments Purchased	·	\$242,863,118.26
Cash Balance - December 31, 1979		\$ 8,738.89
TOTAL		\$249,885,814.06
		A OTHER DESIGNATION

RECONCILIATION OF ASSET BALANCES (December 31, 1979)

Asset Balance - December 31, 1978	\$70,023,918.68
Additions:	
Employer Contributions \$ 6,153,180.22 Member Contributions 4,158,651.91 Investment Income 6,117,992.87 Net Gain on Sale of Stock 176,526.75	\$16,606,351.75
Sub-Total	\$86,630,270.43
Deductions:	
Benefit Payments \$ 6,237,813.28 Refunds 533,983.03 Administrative Expenses 185,999.43 Federal Programs Refund 49,614.64	\$ 7,007,410.38
Asset Balance, December 31, 1979	\$79,622,860.05

Asset Allocation (December 31, 1979)

	Basic Division	Coordinated Division	<u>Total</u>
Asset Balance, 12/31/78	\$69,827,241.71	\$196,676.97	\$70,023,918.68
1. Employer Contributions	5,793,271.03	359,909.19	6,153,180.22
2. Employee Contributions	3,858,982.93	299,668.98	4,158,651.91
3. Benefits Paid	(6,237,669:85)	(143.43)	(6,237,813.28)
4. Refunds	(484,181.37)	(49,801.66)	(533,983.03)
5. Net (Items 1 to 4)	2,930,402.74	609,633.08	3,540,035.82
6. Investment Income	6,250,551.27	43,968.35	6,294,519.62
7. Administrative Expenses	(160,487.89)	(25,511.54)	(185,999.43)
8. Federal Programs Refund	(43,873.44)	(5,741.20)	(49,614.64)
9 Net (Items -6 to -8)	6,046,189.94	12,715.61	6,058,905.55
10. Increase for Year	8,976,592.68	622,348.69	9,598,941.37
Asset Balance 12/31/79	78,803,834.39	819,025.66	79,622,860.05

ACTUARIAL REQUIREMENTS - 5%

FINANCIAL BALANCE SHEET (December 31, 1979)

Present Value of Benefits Expected to be Paid by Retirement Fund

To Active Teachers for

\$181,426,991
16,328,642
12,132,831
2,104,793

Total \$211,993,257

To Vested Teachers 681,214

To Teachers on Leave 2,337,178

To Former Teachers without
Vested Rights 237,555

To Teachers and Beneficiaries Now Receiving Benefits for

Retirement	\$ 49,537,475
Disability	2,550,698
Survivorship	2,377,432

Total \$ 54,465,605

Total Value of Benefits	\$269,714,809
Less Value of Expected Future Contributions*	74,126,924
Accumulated Contribution Requirement Assuming Full-Funding During Prior Service Period	195,587,885
Assets on Hand	79,622,860
Accumulated Contribution Requirement to be Amortized by 2009	115,965,025

^{*} As Determined by the Entry Age Normal Cost Method.

ACTUARIAL REQUIRMENTS (December 31, 1979)

TOTAL REQUIREMENTS

Expected Future Contributions on Behalf of Active Teachers	\$ 74,126,924	
Accumulated Contribution Assuming Full Funding During Prior Service Period	195,587,885	
Total - Value of All Benefits Payable to Present Members	\$269,714,809	
AMORTIZATION RATE REQUIR	REMENT	
Accumulated Contribution Requirement Assets on Hand	\$195,587,885 79,622,860	
Amount to be Amortized	\$115,965,025	
Contribution Requirement for Amortization Period of 30 Years	\$ 7,543,691	
Current Payroll Amortization Rate Requirement	\$ 54,802,584	13.7652%
LEVEL CONTRIBUTION (ENTRY AGE NORMAL) RATE REQUIRE	EMENT
Expected Future Contributions on Behälf of Active Teachers	\$ 74,126,924	
Expected Future Payroll	\$613,544,900	
Total Entry Age Normal Rate Requirement Teacher Contribution Rate* Employer Entry Age Normal Rate Requirement	12.0817% 7.5199	4.5618%
ACTUARIAL BALANCE		
Employer Statutory Contribution Rate**		11.5149%
Rate Requirements Amortization Rate Requirement Entry Age Normal Rate Requirement Expenses Rate Requirement	13.7652% 4.5618 0.3394	
Total Rate Requirement Deficit of Statutory Rate over Rate Requir	ement	18.6664% (7.1515%)
* Waighted by Current Payroll 86 28% Rac	ia and 13 729	

^{*} Weighted by Current Payroll 86.28% Basic and 13.72% Coordinated.

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

STATEMENT OF REVENUE, EXPENDITURES, CHANGES IN UNFUNDED ACCUMULATED CONTRIBUTION REQUIREMENT (Year Ended December 31, 1979)

Revenue:

Employer Contributions	\$6,153,180.22	
Employee Contributions	4,158,651.91	
Net Investment Income	6,294,519.62	
Total Revenue		\$16,606,351.75
Expenditure:		
Benefits	\$6,237,813.28	
Refund of Dues	533,983.03	
Administrative Expense	185,999.43	
Federal Programs Refund	49,614.64	
Total Expenditures		\$ 7,007,410.38
Increase in Assets (1979)		\$ 9,598,941.37
Increase in Accumulated Contribution Requirement		17,340,932.00
Increase (Decrease) in Unfunded Accumulated Contribution Requirement		\$ 7,741,990.63

INCREASE (DECREASE) IN UNFUNDED REQUIREMENTS

Unfunded	December	31,	1978	\$108,223,034
Unfunded	December	31,	1979	115,965,025
Increase (Decrease)				\$ 7,741,991

ALLOCATION OF INCREASE (DECREASE) IN UNFUNDED REQUIREMENT

Change in Average Earnings	\$ 7,166,586
Amendment	3,922,034
Principal of Unfunded Anticipated in Total Rate Requirement \$(3,543,764)	
Deficiency in Total Rate Requirement over Statutory Rate 3,316,990	
Increase Due to Amortization	(226,774)
Investment Income in excess of 5%: Loss (Gain)	(2,599,145)
Experience Variation: Loss (Gain)	 (521,315)
Total Increase (Decrease)	\$ 7,741,991

^{*} Amendment: augmentation of deferred vested benefit.

BASIC DIVISION

FINANCIAL BALANCE SHEET (December 31, 1979)

Present Value of Benefits Expected to be Paid by Retirement Fund

To Active Teachers for

Retirement	\$174,373,292
Disability	15,842,045
Survivorship	12,132,831
Refund	1,720,290

Refund	1,720,290	÷ /
Total		\$204,068,458
To Vested Teachers		630,832
To Teachers on Leave		2,193,319
To Former Teachers with Vested Rights	out	173,055
Mo Monghorg and Ponofic	iarios	

To Teachers and Beneficiaries Now Receiving Benefits for

Retirement	\$ 49,531,005
Disability	2,550,698
Survivorship	2,377,432

Total \$ 54,459,135

Total Value of Benefits	\$261,524,799
Less Value of Expected Future Contributions*	68,191,450
Accumulated Contribution Requirement Assuming Full Funding During Prior Service Period	193,333,349
Assets on Hand	78,803,834
Accumulated Contribution Requirement to be Amortized by 2009	114,529,515

^{*} As Determined by the Entry Age Normal Cost Method.

ACTUARIAL SERVICES

Teachers' Retirement Fund Association St. Paul, Minnesota

BASIC DIVISION

ACTUARIAL REQUIRMENTS (December 31, 1979)

TOTAL REQUIREMENTS

Expected Future Contributions on Behalf of Active Teachers	\$ 68,191,450
Accumulated Contribution Assuming Full Funding During Prior Service Period	193,333,349
Total - Value of All Benefits Payable to Present Members	\$261,524,799
AMORTIZATION RATE REQUIR	EMENT
Accumulated Contribution Requirement Assets on Hand	\$193,333,349 78,803,834
Amount to be Amortized	\$114,529,515
Contribution Requirement for Amortization Period of 30 Years	\$ 7,450,309
Current Payroll Amortization Rate Requirement	\$ 47,285,903 15.7559%
LEVEL CONTRIBUTION (ENTRY AGE NORMAL)	RATE REQUIREMENT
Expected Future Contributions on Behalf of Active Teachers	\$ 68,191,450
Expected Future Payroll	\$538,040,600
Total Entry Age Normal Rate Requirement Teacher Contribution Rate Employer Entry Age Normal Rate Requireme	12.6740% 8.0000 4.6740%
ACTUARIAL BALANCE	
Employer Statutory Contribution Rate*	12.6300%
Rate Requirements Amortization Rate Requirement Entry Age Normal Rate Requirement Expenses Rate Requirement	15.7559% 4.6740 0.3394
Total Rate Requirement Deficit of Statutory Rate over Rate Require	20.7693% ement (8.1393%)
* Rate established by Minnesota Statute.	

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COMPENSATION & CAPITAL INCORPORATED

BASIC DIVISION

STATEMENT OF REVENUE, EXPENDITURES, CHANGES IN UNFUNDED ACCUMULATED CONTRIBUTION REQUIREMENT (Year Ended December 31, 1979)

Revenue:

Employer Contributions	\$5,793,271.03	
Employee Contributions	3,858,982.93	
Net Investment Income	6,250,551.27	
Total Revenue		\$15,902,805.23
		· ·
Expenditure:		
Benefits	\$6,237,669.85	
Refund of Dues	484,181.37	
Administrative Expense	160,487.89	
Federal Programs Refund	43,873.44	
Total Expenditures		\$ 6,926,212.55
Increase in Assets (1979)		\$ 8,976,592.68
Increase in Accumulated Contrib	ution Requirement	16,434,878.00
Increase (Decrease) in Unfunded Contribution Requirement	Accumulated	\$ 7,458,285.32

BASIC DIVISION

INCREASE (DECREASE) IN UNFUNDED REQUIREMENTS

Unfunded	December 31,	1978 \$107,071,229
Unfunded	December 31,	1979 114,529,515
Increase (Decrease)		\$ 7,458,286

ALLOCATION OF INCREASE (DECREASE) IN UNFUNDED REQUIREMENT

Change in Average Earnings	\$	7,041,393
Amendment		3,695,547
Principal of Unfunded Anticipated in Total Rate Requirement \$(3,506,048)		
Deficiency in Total Rate Requirement over Statutory Rate 3,302,698		
Increase Due to Amortization		(203,350)
Investment Income in excess of 5%: Loss (Gain)		(2,580,989)
Experience Variation: Loss (Gain)		(494,315)
Total Increase (Decrease)	\$	7,458,286

^{*} Amendment: augmentation of deferred vested benefit.

COORDINATED DIVISION

FINANCIAL BALANCE SHEET (December 31, 1979)

Present Value of Benefits Expected to be Paid by Retirement Fund

To Active Teachers for

Retirement Disability Survivorship Refund	\$ 7,053,699 486,597 - 384,503			
Total		\$ 7,	924,799	
To Vested Teachers			50,382	
To Teachers on Leave	·		143,859	
To Former Teachers without Vested Rights	ut	·	64,500	
To Teachers and Benefician Now Receiving Benefits for			·	
Retirement Disability Survivorship	\$ 6,470 - -			
Total		\$	6,470	·
Total Value of Benefits				\$ 8,190,010
Less Value of Expected Fu	uture Contribu	tions*		5,935,474
Accumulated Contribution Assuming Full Funding I Prior Service Period				2,254,536
Assets on Hand				819,026
				019,020
Accumulated Contribution to be Amortized by 2009				1,435,510

^{*} As Determined by the Entry Age Normal Cost Method.

COORDINATED DIVISION

ACTUARIAL REQUIRMENTS (December 31, 1979)

TOTAL REQUIREMENTS

Expected Future Contributions on Behalf of Active Teachers	\$ 5,935,474	
Accumulated Contribution Assuming Full Funding During Prior Service Period	2,254,536	
Total - Value of All Benefits Payable to Present Members	\$ 8,190,010	
AMORTIZATION RATE REQUIRE	MENT	
Accumulated Contribution Requirement Assets on Hand	\$ 2,254,536 819,026	
Amount to be Amortized	\$ 1,435,510	
Contribution Requirement for Amortization Period of 30 Years	\$ 93,382	
Current Payroll Amortization Rate Requirement	\$ 7,516,681	1.2423%
LEVEL CONTRIBUTION (ENTRY AGE NORMAL)	RATE REQUIRE	MENT-
Expected Future Contributions on Behalf of Active Teachers	\$ 5,935,474	
Expected Future Payroll	\$75,504,300	
Total Entry Age Normal Rate Requirement Teacher Contribution Rate Employer Entry Age Normal Rate Requiremen	7.8611% <u>4.5000</u>	3.3611%
ACTUARIAL BALANCE		
Employer Statutory Contribution Rate*		4.5000%
Rate Requirements Amortization Rate Requirement Entry Age Normal Rate Requirement Expenses Rate Requirement	1.2423% 3.3611 0.3394	
Total Rate Requirement Deficit of Statutory Rate over Rate Require	ment.	4.9428% (0.4428%)

Rate established by Minnesota Statute.

COORDINATED DIVISION

STATEMENT OF REVENUE, EXPENDITURES, CHANGES IN UNFUNDED ACCUMULATED CONTRIBUTION REQUIREMENT (Year Ended December 31, 1979)

Revenue:

Employer Contributions	\$ 359,909.19	
Employee Contributions	299,668.98	
Net Investment Income	43,968.35	
Total Revenue		\$ 703,546.52
Expenditure:		
Benefits	\$ 143.43	
Refund of Dues	49,801.66	
Administrative Expense	25,511.54	
Federal Programs Refund	5,741.20	
Total Expenditures		\$ 81,197.83
Increase in Assets (1979)		\$ 622,348.69
Increase in Accumulated Contribut	tion Requirement	906,054.00
Increase (Decrease) in Unfunded A Contribution Requirement	Accumulated	\$ 283,705.31

COORDINATED DIVISION

INCREASE (DECREASE) IN UNFUNDED REQUIREMENTS

Unfunded	December 31,	1978	\$1	,151,805
Unfunded	December 31,	1979	_1	,435,510
Increase (Decrease)			\$	283,705
ALLOCATION OF INCREASE (D	ECREASE) IN U	NFUNDED REQ	UIR	EMENT
Change in Average Earnings			\$	125,193
Amendment				227,092
Principal of Unfunded Anticip in Total Rate Requirement		, 716)		
Deficiency in Total Rate Requ ment over Statutory Rate		,292	e ^s	•
Increase Due to Amortization				(23,424)
Investment Income in excess o	f 5%: Loss (G	ain)		(18,156)
Experience Variation: Loss (Gain)			(27,000)
Total Increase (Decrease)			\$	283,705

^{*} Amendment: augmentation of deferred vested benefit.

RECONCILIATION OF MEMBERS

ACTIVE

Active (Including 119 on Leave) December 31, 1978		2,792
Additions: New Apointments 1979 Reappointments	208 15	223
Total		3,015
Separations: Retirements Deaths Terminations	40 5 130	<u> 175</u>
Active (Including 179 On Leave) December 31, 1979		2,840
Substitutes		543
Inactive Members		33
RETIRED		
Retired Members December 31, 1978		874
Additions During 1979: Retirement Disability	37 3	40
Total		914
Separations - Deaths		40
Retired Members December 31, 1979		<u>874</u>
Beneficiaries: Reversionary Survivor Children	13 36 23	
Total	72	

BASIC DIVISION

RETIRED ON SERVICE PENSION

		MALE	F	EMALE
AGE	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION
55 56 57 58 59 60 61 62 63 64 65 66	- 3 1 1 2 4 5 5 9 9 8 10	\$ - 21,804 8,606 13,813 22,929 50,187 72,647 69,756 109,709 109,427 104,529 127,270 154,586	1 2 1 2 3 8 2 5 11 14 19 16 21	\$ 14,207 15,241 4,787 15,736 29,105 98,909 21,577 37,536 96,419 110,573 169,024 136,481 141,051
68 69 70 71 72 73 74 75 76	8 5 10 4 5 3 5 6 1 7	105,567 44,885 99,229 31,968 53,153 27,384 46,687 51,381 6,072 43,324	15 25 18 21 22 34 25 32 36 38	135,333 180,980 143,894 141,531 154,365 225,376 146,328 187,466 204,419 177,282
78 79 80 81 82 83 84 85	2 3 4 2 2 - 1 5 1	12,200 14,651 18,598 7,917 9,875 - 4,479 19,771 4,238	17 25 20 25 20 20 21 21	80,596 107,313 83,932 108,529 81,647 75,929 76,195 83,989 82,651
87 88 89 90 91 92 93 94 95 96	1 - - 1 - - - -	4,221 - 3,362 - 3,462 - - -	18 11 8 9 8 5 2 3 2 4 1	64,814 43,303 30,429 32,679 29,910 15,644 7,017 9,623 6,869 11,974 3,203
TOTALS	147	\$1,477,687	632	\$3,623,866

RETIRED ON LIMITED PENSION

	MA	ALE	FE	FEMALE		
		ANNUAL	- ;	ANNUAL		
AGE	NUMBER	PENSION	NUMBER	PENSION		
66	2	\$16,253	5	\$33,426		
67	2		5			
		7,122	o	21,219		
68	1	3,538	8 3	22,346		
69	1	470	3	8,263		
70	-		4	16,661		
71	•	-	1	2,925		
73			3	14,328		
74	1	3,132	ĺ	3,912		
75	-	_		2,256		
76	1	3,180	3	11,016		
77	_	_	1 3 1	2,460		
			•			
79	-	-	2	4,476		
81	_	-	-	-		
82	1	2,312	2 2	5,489		
84	-	, -	2	5,056		
85	1	2,544	1	2,458		
86	_	_	1	2,546		
88		· <u>-</u>	ī	2,294		
92	_ _	_ _	2	4,110		
<i>-</i>	·	·				
TOTALS	10	\$38,551	46	\$165,241		

RETIRED WITH REVERSIONARY PENSIONS

	M	ALE	FEMALE		
AGE	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION	
80	1	\$ 4,403	1	\$ 3,758	
83	-	- -	1	4,129	
88	_1	3,700	_		
TOTAL	2	\$ 8,103	_2	\$ 7,887	

RETIRED ON DISABILITY PENSION

		MALE	FEMALE		
AGE	NUMBER	ANNUAL PENSION	NUMBER	ANNUAL PENSION	
38	- .	\$ -	1	\$ 9,709	
44	. -	-	1	9,870	
46	-	-	1	14,929	
47	1	15,216	-	- .	
50	1	13,548		-	
51 77	1	11,268	_	-	
52	-	-	4	40,502	
55	1	17,030	-	-	
57	2	17,952	1	13,809	
58	2	20,696	1	10,286	
59	2	33,000	1	14,748	
60	1	14,739	1	7,803	
62	1	17,594	1	4,716	
63	2	33,719	1	11,498	
65	-	-	1	12,951	
66	1	6,228	-	-	
67	1	4,188	-	-	
70	-	-	1	4,400	
73	_		1	3,239	
76	_	· · -	1	3,099	
78			_1	3,482	
TOTAL	<u>16</u>	<u>\$205,178</u>	18	\$165,041	

SURVIVOR ANNUITIES

CHILDREN

Number 23

Annual Pension \$88,978

MALE

	Reversionary	Survivors	Regular	Survivors
		Annual		Annual
<u>Age</u> 51 55	Number	Pension	Number	Pension
51		\$ -	1	\$ 3,477
55	_	_	1	3,900
62	_	-	1	6,431
65	-		1	6,395
68	-	_	1	8,641
71	-		1	1,548
74	-	_	1	7,404
75	- .	-	1	3,407
79	-		1	6,228
84				
Totals	-	\$ -	9	\$ 47,431

F E M A L E

	Reversionary		Regular	Survivors
7	37	Annual	av 1.	Annual
Age 42	Number	Pension	Number	Pension
	-	\$ -	1	\$ 6,985
43	-	- .	1	4,291
53	-	- . <u>-</u>	1	6,459
55	-		2	10,796
56	-	-	1	2,520
58	-	_	1	2,760
60	·	_	3	20,832
62	-	_	2	5,541
63	-	-	1	10,659
64		_	1	12,146
66	-	-	1	5,184
68	-	_	2	8,203
69	1	1,371	1	2,280
70	_	<u>-</u>	1	2,259
72	-	_	1 2	5,069
73	1	1,441	1	5,208
74	-	-	1	3,852
7 5	1	1,045	2	15,280
77	2	4,176	_	_
79	5	12,298	-	-
80	<u>-</u>		1	4,734
83	1	1,814		
84	ī	1,479		
85	ī ·	1,338	<u></u> .	_
98	_		1	4,428
			<u> </u>	
Total	13	\$24,962	27	\$139,486
COMPENSATION &	CAPITAL INCORPORATED		ACTI	JARIAL SERVICES

CONSIDERED EARNINGS (Year Ended December 31, 1979)

Basic Division - Active Male Employees (Age and Credited Service as of December 31, 1979)

	(Age and Credited Service as of December 31, 1979)							
				YEARS OF SEI	RVICE			
		Under 1		1		2 to 4		5 to 9
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25		\$ -		\$ -		\$ -		\$ -
25 to 29	_	· _	7	95,107	17	229,456	8	133,681
30 to 34	_	_	3	47,983	24	478,718	89	1,650,216
35 to 39	_		4	80,850	10	207,319	55	1,156,824
40 to 44	_	_	_	_	6	140,626	35	882,223
45 to 49	_	-	-	_	1	22,080	19	476,142
50 to 54	-	-	1	18,900	1	22,564	5	116,982
55 to 59	_		_	-	_	_	4	128,601
60 to 64	_	_	_	, -	_	_	1	21,957
65 & Up						-		<u>-</u>
			<u> </u>					
Total-		-\$ -	15	\$_242,840	_ 59	\$1,100,763	216	\$4,566,626
				YEARS OF SEP				
		10 to 14		15 to 19		20 to 24		25 to 29
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	_		-	-	-	-	-	-
30 to 34	35	675,196		· -	-	• -	-	-
35 to 39	93	2,226,868	16	422,295		·	_	-
40 to 44	47	1,151,117	62	1,620,627	14	371,493	-	-
45 to 49	29	751,998	41	1,072,310	65	1,758,798	1.5	408,778
50 to 54	22	550,746	20	489,576	32	831,710	58	1,566,888
55 to 59	6	153,486	13	334,481	15	393,576	41	1,097,897
60 to 64	2	51,261	· 7	184,986	4	- 111,920	4	115,834
65 &Up								
Total	235	\$5,560,672	<u>159</u>	\$4,124,275	130	\$3,467,497	118	\$3,189,397
				YEARS OF SER	WT CE			
		30 to 34		35 to 39		40 & Up		All
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25		\$ -		\$ -		\$ -		\$ -
25 to 29	_	· _	_	· _	_	· _	32	458,244
30 to 34	_	_		_	_	_	151	2,852,113
35 to 39	_	_	_	_	-	_	178	4,094,156
40 to 44	_	_	_	_	_	_	164	4,166,086
45 to 49	_	· -	_	_		_	170	4,490,106
50 to 54	18	498,926	_	_	_		157	4,096,292
55 to 59	44	1,307,217	6	183,652	_	_	129	3,598,910
60 to 64	12	330,219	4	133,021	_	_	34	949,198
65 & Up	1	23,300	1	31,666	-	_	2	54,966
			<u></u>	31,000				34,500
Total	<u>75</u>	\$2,159,662	11	\$ 348,339		<u>\$ -</u>	1,017	\$24,760,071

CONSIDERED EARNINGS (Year Ended December 31, 1979)

Basic Division - Active Female Employees (Age and Credited Service as of December 31, 1979)

		_		VEADO OF O	DVII			
		Under 1		YEARS OF SE	RVICE	2 to 4		5 to 9
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	NO.	\$ -	8	\$ 98,077	3	\$ 36,379	<u> 100.</u>	\$ -
25 to 29	_	_	26	317,490	88	1,170,151	28	423,614
30 to 34	_	_	11	129,528	45	667,612	179	2,850,932
35 to 39	•••	_	7	91,469	27	428,004	63	1,196,145
40 to 44			3	43,011	17	266,916	52	1,032,148
45 to 49	_	_	5	77,700	15	229,585	34	682,081
50 to 54	_	_	2	30,050	6	76,658	34	687,185
55 to 59	_	<u> -</u>	_	-	2	31,994	12	218,075
60 to 64	_	_		_	_	-	3	59,639
65 & Up	_	_	_	-	_		_	-
				. 				
Total		\$ - <u>-</u> -	_62	\$ 787,325	203	\$2,907,299	405	\$7,149,819
•				YEARS OF SE	RVICE			
		10 to-14		15 to 19		20 to 24		25 to 29
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25		\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	_	-	-		-	-	-	-
30 to 34	48	863,049	_	-	-	-	-	-
35 to 39	66	1,468,815	10	246,325	_	-	-	-
40 to 44	45	1,017,404	40	930,106	5	114,634	-	·
45 to 49	34	718,258	21	467,823	21	482,863		161,655
50 to 54	20	459,754	21	492,468	18	446,110	16	381,680
55 to 59	18	410,043	19	400,810	18	423,398	7	173,291
60 to 64	7	156,303	13	286, 950	13	322 , 863	- 6	146,5 3 1 -
65 & Up	_1	19,000	3	66,700		·		
Total	239	\$5,112,626	127	\$2,891,182	75	\$1,789,868	36	\$ 863,157
				WELLOG OF GE				
		20 += 24		YEARS OF SE	RVICE	40 6 77-		717
አሮሞ -	NO	30 to 34 EARNINGS	NO.	35 to 39 EARNINGS	NO	40 & Up	NO	All EARNINGS
AGE Under 25	NO.		NO.		NO.	EARNINGS	NO.	
25 to 29	_	\$ -	_	\$ -	_	\$ -	11	
30 to 34	_	-	_	_	_	-	142	1,911,255
35 to 39	_	_	_	_	_	-	283	4,511,121 3,430,758
40 to 44		_	_	_	_		173	
	_	_	_		·	_	162	3,404,219
45 to 49	-	122 200	_	_	-	-	137	2,819,965
50 to 54	12	133,200	=	120 750	_		123	2,707,105
55 to 59 60 to 64	13	303,240	5 70	139,750	- 1	10 500	94	2,100,601
	8	188,556	10	223,810	1	19,500	61	1,404,152
65 & Up	<u> </u>		1	16,500			5	102,200
Total	27	\$ 624,996	16	\$ 380,060	1	\$ 19,500	1,191	\$22,525,832

EXHIBIT 25

Teachers' Retirement Fund Association St. Paul, Minnesota

COORDINATED DIVISION

RETIRED ON SERVICE PENSION

	MALE	FEMALE		
AGE	NUMBER PENSION	NUMBER PENSION		
65	- \$ °-	1 \$ 573.72		

CONSIDERED EARNINGS (Year Ended December 31, 1979)

Coordinated Division - Active Male Employees (Age and Credited Service as of December 31, 1979)

		(Age and	Credit	ted Service as	of Dec	ember 31, 1	979)	
		<u> </u>		YEARS OF SEF				·
		Under 1		1	2	to 4		5 to 9
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	17	\$ 84,275	_	\$ -	_	\$ -	-	\$ -
25 to 29	78	357,385	17	171,370	3	33,762	2	31,630
30 to 34	60	235,019	9	100,961	6	80 , 779	4	68,802
35 to 39	37	156,720	5	93,289	1	17,500	4	98,476
40 to 44	30	124,604	4	33,700		_	1	16,400
45 to 49	23	56,676	1	16,165	-	-	1	24,300
50 to 54	12	31,740	_	<u>-</u>	1	6,935	1	25,150
55 to 59	10	23,183	2	6,415	· <u>-</u>	<u>-</u>	_	<u>-</u>
60 to-64	6	3,932		16,350	-	_	_	_
65 & Up	_	_	_		_		_	
						· 	-	
Total	<u>273</u>	\$1,073,534	39	\$ 438,250	11	\$ 138,976	<u> 13</u>	\$ 264,758
				YEARS OF SER				
	·	10 to 14		15 to 19	2	0 to 24		25 to 29
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -		\$ -	- :	\$ -		\$ -
25 to 29	_	-	-	-	-	_	-	-
30 to 34	_		_			_	_	_
35 to 39	1	19,700	_	-	_	_	_	_
40 to 44		<u>-</u>	1	18,900	_	_	_	
45 to 49	1	23,900	_	<u>-</u>	_	_	_	
50 to 54	_		_	_	_		_	· _
55 to 59	_		1	23,300		_	_	-
60 to 64	1	23,122	_	_	_	_	_	_
65 & "Up	_		_	-	_		_	_
US T OF								
Total	3	\$ 66,722	2	\$ 42,200	:	\$ -		<u> </u>
				YEARS OF SER				····
		30 to 34		35 to 39		0 & Up		All
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	_	\$ -	_	\$ -	- :	\$ -	17	\$ 84,275
25 to 29	_	-	-		-	-	100	594,147
30 to 34	_	-	-	-	-	_	79	485,561
35 to 39	-	-	-	_	-	-	48	385,685
40 to 44	_	-	_	-	_	-	36	193,604
45 to 49	_	-	_	_	_	_	26	121,041
50 to 54	_	-	_	_	_	-	14	63,825
55 to 59	_	_	_	-	-	_	13	52,898
60 to 64	_	_	_	_	_		8	43,404
65 & Up						<u> </u>		
Total		<u>\$</u>		\$ -	:	-	341	\$2,024,440

CONSIDERED EARNINGS (Year Ended December 31, 1979)

Coordinated Division - Active Female Employees (Age and Credited Service as of December 31, 1979)

			YEARS OF SERVICE					
		Under 1		1		2 to 4		5 to 9
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	78	\$ 413,938	21	\$ 241,945	_	\$ -	_	\$ -
25 to 29	133	917,868	47	571,178	11	127,071	2	29,100
30 to 34	72	495,467	15	195,340	. 7	96,778	11	168,417
35 to 39	55	228,033	17	207,430	5	75,009	2	30,425
40 to 44	42	232,264	10	143,351	7	114,374	5	99,190
45 to 49	21	112,207	10	89,895	5	83,341	-	-
50 to 54	12	48,595	4	33,174	9	93,394	2	25,500
55 to 59	6	20,709	9	77,249	1	3,014	-	-
60 to 64	4	7,263	1	1,872	5	18,626	2	6,543
65 & Up								
Total	423	\$2,476,344	<u> 134</u>	\$1,561,434		\$ 611,607	24	\$ 359,175
				YEARS OF SEI	RVICE			·
		10 to 14		15 to 19		20 to 24		25 to 29
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	_	\$ -	-	\$ -	_	\$ -	_	\$ -
25 to 29	_	-	-	-	-	-	_	-
30 to 34	6	107,443	_	_	_	_	_	_
35 to 39	5	99,351	1	24,368	-		_	
40 to 44	1	23,300	1	20,800	_	_	_	· -
45 to 49	_		2	42,200	_	-	-	-
50 to 54	2	42,487	_	_	_	_	_	_
55 to 59	1	24,300		_	1	17,859	_	_
60 to 64	1	17,750	-	_	2	60,560		-
65 & Up	1	3,263	_	_	_	<u>.</u>	_	_
_								
Total		\$ 317,894	4	\$ 87,368	3	\$ 78,419		\$ <u>-</u>
				YEARS OF SEI				
		30 to 34		35 to 39		40 & Up		All
AGE	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	_	\$ -	-	\$ -	-	\$ -	99	\$ 655,883
25 to 29	-	-	-	-	_	-	193	1,645,217
30 to 34	-	_	-	-	-	-	111	1,063,445
35 to 39	-	-	-	-	-	-	85	664,616
40 to 44	-	-	-	-	_	-	66	633,279
45 to 49	-	-	-	-	-	· -	38	327,643
50 to 54	-	-	-	-		· -	29	243,150
55 to 59	_	-	-	-	-	-	18	143,131
60 to 64	-	-	_	_	_	-	15	112,614
65 & Up							1	3,263
Total	_	\$ -	_	\$ -	_	\$ -	655	\$5,492,241

SUMMARY OF PLAN

BASIC DIVISION

SUMMARY OF PLAN

(As Amended Effective July 1, 1978)

1. Name

Teachers' Retirement Fund Association, St. Paul, Minnesota.

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 regularly appointed to 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 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. Year 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 produced 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 State Teachers Retirement Association including social security taxes.

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 accredited service; such accredited service limited to a maximum of 40 years.

10. Limited Service Benefit

Employees compelled to retire upon attainment of a specified age after 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.

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. <u>Disability Benefit</u>

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 total 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.

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, 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

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

In all cases above, if the member 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. 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.

17. <u>Proportionate Annuity</u>

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

18. 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.

19. Increases to Prior Retirees

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.

20. 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

SUMMARY OF PLAN (As Amended Effective July 1, 1978)

1. Name

Teachers' Retirement Fund Association St. Paul, Minnesota.

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 regularly appointed to 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 were automatically so covered.

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. 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 produces 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

Based on Contribution Requirements set by State Teachers' Retirement Association 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.

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

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% of average salary for each year of accredited service in excess of 10 years; such accredited service limited to a maximum of 40 years.

10. 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.

11. Disability Benefit

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

The benefit is computed as for Normal Retirement considering average salary and accredited service at time of disability. Disability recipients automatically assume retirement status to 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.

12. <u>Deferred Vested Benefit</u>

In the event of termination after completion of 10 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%.

13. <u>Death Benefit</u>

Active

After completion of 30 years of service or attainment of age 55 and completion of 20 years of service a member may elect a joint and survivor annuity payable to the beneficiary 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.

14. Cash Refund of Dues

Upon termination or death of an active member prior to eligibility for any other pension, the full amount of his dues will be returned to him or to his beneficiary.

15. Proportionate Annuity

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

16. 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.

17. Optional Annuity Plans

In lieu of 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 or a guaranteed refund benefit.

18. 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.

ACTUARIAL ASSUMPTIONS

STATEMENT OF ACTUARIAL ASSUMPTIONS

Based on the experience analysis through December 31, 1975, 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.

Disability: See following tables.

Separation: See following tables.

Salary Scale: 3-1/2% per annum, compounded

annually. See following tables.

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

MORTALITY RATES

(Per 1,000 Employees)

Male Employees

Age 20 21 22	.517 .537 .558	Age 45 46 47	Rate 3.002 3.409 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 41 42 43 44	1.677 1.838 2.054 2.322 2.639	65	20.475

MORTALITY RATES

(Per 1,000 Employees)

Female Employees

Age	Rate	<u>Age</u>	Rate
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 41 42 43 44	1,122 1,213 1,311 1,420 1,540	65	11.402

DISABILITY RATES

(Per 1,000 Employees)

All Employees

Age	Rate	Age	Rate
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 41 42 43 44	1.15 1.20 1.27 1.36 1.48		

SEPARATION RATES

(Per 1,000 Employees)

Male Employees

Age	Rate		Age	Rate
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 -		5 0	12
31	67		51	12
32	61		52	- 11 .
33	55		53	11
34	49		54	10
35	43	: 8	55	9
36	39		· 56	· 7
37	35	•	57	5
38	31		· 5 8	3
39	28		59	1

SEPARATION RATES

(Per 1,000 Employees)

Female Employees

Age	Rate	Age	Rate
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	5 0	19
31	199	51	16
32	185	5 2	14
33	171	5 3	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

EARNINGS PROGRESSION

All Employees

Age	<u>Rate</u>	Age	Rate
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 41 42 43 44	.4231 .4380 .4533 .4692 .4856	65	1.0000