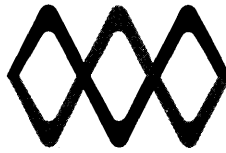


Teachers Retirement Association Fund
ACTUARIAL VALUATION REPORT

July 1, 2000



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December 8, 2000

Legislative Commission on
Pensions and Retirement
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RE: Teachers Retirement Association Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 2000.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Teachers Retirement Association.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

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Teachers Retirement Association Fund

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Teachers Retirement Association Fund

Report Highlights

(dollars in thousands)

	07/01/1999 Valuation	07/01/2000 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 354 % of Payroll	10.00%	10.00%
2. Required Contributions - Chapter 356 % of Payroll	9.86%	7.92%
3. Sufficiency (Deficiency): (A.1. - A.2.)	0.14%	2.08%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$14,011,247	\$15,573,151
b. Current Benefit Obligations (Table 8)	\$12,533,786	\$14,009,611
c. Funding Ratio: (a/b)	111.79%	111.16%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$14,011,247	\$15,573,151
b. Actuarial Accrued Liability (Table 9)	\$13,259,569	\$14,802,441
c. Funding Ratio: (a/b)	105.67%	105.21%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$16,526,750	\$18,324,588
b. Current and Expected Future Benefit Obligations	\$15,719,403	\$17,235,087
c. Funding Ratio: (a/b)	105.14%	106.32%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	68,613	70,508
b. Projected Annual Earnings	\$2,692,960	\$2,813,696
c. Average Annual Earnings (Projected \$)	\$39,249	\$39,906
d. Average Age	42.9	42.6
e. Average Service	12.1	11.7
2. Others		
a. Service Retirements (Table 4)	27,457	29,525
b. Survivors (Table 5)	1,816	1,912
c. Disability Retirements (Table 6)	476	509
d. Deferred Retirements (Table 7)	7,020	7,375
e. Terminated Other Non-vested (Table 7)	18,317	17,833
f. Total	55,086	57,154

Teachers Retirement Association Fund

Commentary

Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 111.16%. The corresponding ratio for the prior year was 111.79%.
- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 2000 the ratio is 105.21%, which is a decrease from the 1999 value of 105.67%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 106.32% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

Effective with the July 1, 2000 valuation of the fund, Minnesota Statutes require that the asset value used for actuarial purposes spread differences between actual return (measured on a market-value basis) and expected return on non-MPRIF assets over five years, in a manner similar to that already being used within the MPRIIF. The previous method

required under Minnesota Statutes recognized one third of the unrealized gains and losses. An Asset Valuation Method requirement exists because market values (which include all unrealized gains and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year. The intent of the change to the current method is to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style. The effective date of this requirement is July 1, 2000 with full transition to be accomplished as of July 1, 2003.

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

Market Value of Assets at June 30, 2000, *less*

80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and 06/30/2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less*

60% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on 06/30/99 and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets," the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e., MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e., SBI) will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated as follows:

- For Active Members – Salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service

establishes the portion of the projected benefit to be used in calculating the current funding level.

- For Non-Active Members – The discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

Disclosure of the Current Benefit Obligation amounts used to be required by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 has been superceded by Statement No. 25. Tables 14 and 15 of this report are included to fulfill the requirements of Statement No. 25.

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

Source of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will

deviate from the long-term expectations. For a detailed analysis of the major components, refer to Table 10.

Contribution Sufficiency (Table 11)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

- Normal costs based on the Entry Age Normal Actuarial Cost Method.
- A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.
- An Allowance for Expenses.

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 10.00% compared to the Required Contribution Rate of 7.92%.

Changes in Actuarial Assumptions

An entire new set of actuarial assumptions was recommended based on the 1992-96 experience analysis and was adopted by the LCPR for use in this valuation. Also incorporated with these assumption changes were changes to the calculation of benefits for IMP eligible members and former members. The assumptions summarized in this report reflect the following changes:

Teachers Retirement Association Fund
Summary of Assumption Changes

Assumption	Previous	Current
Salary increases	Merit table that ranges from 7.25% at age 20 down to 5.25% at age 70	Merit table that ranges from 8.0% at age 20 down to 5.0% at age 70
Male Pre-Retirement Mortality	1983 GAM (Male - 8)	1983 GAM (Male - 10)
Female Pre-Retirement Mortality	1983 GAM (Female - 4)	1983 GAM (Female - 8)
Male Post-Retirement Mortality	1983 GAM (Male - 4)	1983 GAM (Male - 5)
Female Post-Retirement Mortality	1983 GAM (Female - 2)	1983 GAM (Female - 4)
Male Post-Disability Mortality	1977 RRB	1965 RRB to age 54, graded mortality rates between 1965 RRB and Post-Retirement Mortality table between ages 55 and 64, Post-Retirement Mortality table for ages 65 and later
Female Post-Disability Mortality	1977 RRB	1965 RRB to age 54, graded mortality rates between 1965 RRB and Post-Retirement Mortality table between ages 55 and 64, Post-Retirement Mortality table for ages 65 and later
Retirement Age	Age 62. In addition, 45% of Basic Members and 30% of Coordinated Members are assumed to retire each year that they are eligible for the Rule of 90.	Graded rates beginning at age 55. A different set of rates applies if the Member is eligible for the Rule of 90.
Separation Decrement	Select and ultimate table. Rates during the select period are based on attained age at valuation date.	Select and ultimate table. Rates during the select period are based on gender. Ultimate rates are gender based and generally lower than current rates.
Disability Decrement	Age-related rates.	Rates which are both age-related and gender-related. Recommended rates are significantly lower than current rates especially for females.
Form of Annuity Selected - Male	15% elect 50% J&S option 0% elect 75% J&S option 50% elect 100% J&S option	15% elect 50% J&S option 15% elect 75% J&S option 50% elect 100% J&S option
Form of Annuity Selected - Female	10% elect 50% J&S option 0% elect 75% J&S option 10% elect 100% J&S option	20% elect 50% J&S option 10% elect 75% J&S option 30% elect 100% J&S option
Combined Service Annuity Load Factor	None	1.0% load on liabilities for active and deferred vested participants.

Effective with this July 1, 2000 valuation, the funding method changes have been incorporated:

- Asset Valuation Method is changed to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style.
- The actuarial funding method was modified to reflect a 30-year amortization credit of the surplus of the Actuarial Value of Assets over the Actuarial Accrued Liability.

Changes in Plan Provisions

There were no changes in the plan provisions which affected plan costs for the current valuation.

Teachers Retirement Association Fund

TABLE 1

Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2000

	Market Value	Cost Value
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	\$87,128	\$87,128
2. Fixed Income	1,974,469	2,022,137
3. Equity	5,957,691	5,329,243
4. Real Estate	310,688	248,367
5. Equity in MPRIF	8,055,622	8,055,622
6. Invested Securities Lending Collateral	1,644,076	1,644,076
7. Other	2,043	2,043
Subtotal	<u>\$18,031,717</u>	<u>\$17,388,616</u>
B. ASSETS RECEIVABLE	20,267	20,267
C. LIABILITIES		
1. Invested Securities Lending Collateral	(1,644,076)	(1,644,076)
2. Other	(250,717)	(250,717)
Subtotal	<u>(1,894,793)</u>	<u>(1,894,793)</u>
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	8,055,622	8,055,622
2. Member Reserves	1,354,683	1,354,683
3. Other Non-MPRIF Reserves	6,746,886	6,103,785
4. Total Assets Available for Benefits	<u>\$16,157,191</u>	<u>\$15,514,090</u>
E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Market Value of Assets Available for Benefits (D4)		\$16,157,191
2. Unrecognized Asset Returns (UAR)		
a. June 30, 2000	\$157,486	
b. June 30, 1999	763,418	
3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)		584,040
4. Actuarial Value of Assets (E1 - E3)		<u>15,573,151</u>
(Same as "Current Assets")		

TABLE 2

Teachers Retirement Association Fund

Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

	Non-MPRIF Assets	MPRIF Reserve	Market Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$8,022,983	\$6,751,682	\$14,774,665
B. ADDITIONS			
1. Member Contributions	\$138,696	\$0	\$138,696
2. Employer Contributions	134,419	0	134,419
3. Contributions From Other Sources	0	0	0
4. MPRIF Income	0	1,066,727	1,066,727
5. Net Investment Income			
a. Interest and Dividends	1,061,470	0	1,061,470
b. Net Realized Gain (Loss)	270,283	0	270,283
c. Net Change in Unrealized Gain (Loss)	(505,705)	0	(505,705)
d. Investment Expenses	(11,412)	0	(11,412)
e. Net Subtotal	<u>814,636</u>	<u>0</u>	<u>814,636</u>
6. Other	2,388	0	2,388
7. Total Additions	<u>\$1,090,139</u>	<u>\$1,066,727</u>	<u>\$2,156,866</u>
C. OPERATING EXPENSES			
1. Service Retirements	\$2,047	\$732,126	\$734,173
2. Disability Benefits	9,838	0	9,838
3. Survivor Benefits	980	10,045	11,025
4. Refunds	7,263	0	7,263
5. Administrative Expenses	8,138	0	8,138
6. Other	3,903	0	3,903
7. Total Disbursements	<u>\$32,169</u>	<u>\$742,171</u>	<u>\$774,340</u>
D. OTHER CHANGES IN RESERVES			
1. Annuities Awarded	(768,364)	768,364	0
2. Mortality Gain/Loss	(9,767)	9,767	0
3. Change in MPRIF Assumptions	(201,253)	201,253	0
4. Total Other Changes	<u>(979,384)</u>	<u>979,384</u>	<u>0</u>
E. ASSETS AVAILABLE AT END OF PERIOD	<u>\$8,101,569</u>	<u>\$8,055,622</u>	<u>\$16,157,191</u>
F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN			
1. Average Balance			
(a) Non-MPRIF Assets Available at Beginning of Period			8,022,983
(b) Non-MPRIF Assets Available at End of Period*			8,312,589
(c) Average Balance { [F1.a + F1.b - B5.e - B6] / 2 }			7,759,274
2. Expected Return: .085 * F1.c			659,538
3. Actual Return			817,024
4. Current Year Unrecognized Asset Return: F3 - F2			157,486

* Before adjustment for MPRIF mortality gain/loss and new MPRIF assumptions

TABLE 3

Teachers Retirement Association Fund
ACTIVE MEMBERS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	1,236	1,083	0	0	0	0	0	0	2,319
25-29	1,382	6,299	905	1	0	0	0	0	8,587
30-34	725	3,381	4,342	547	0	0	0	0	8,995
35-39	714	1,826	2,216	2,605	478	1	0	0	7,840
40-44	775	1,756	1,602	1,806	1,879	710	2	0	8,530
45-49	720	1,696	1,735	1,641	1,499	2,965	1,208	1	11,465
50-54	516	1,203	1,361	1,467	1,331	1,930	4,196	1,648	13,652
55-59	342	568	521	665	672	844	1,293	1,967	6,872
60-64	182	220	166	189	211	223	332	292	1,815
65+	150	112	43	20	18	27	20	43	433
ALL	6,742	18,144	12,891	8,941	6,088	6,700	7,051	3,951	70,508

AVERAGE ANNUAL EARNINGS

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	17,130	25,900	0	0	0	0	0	0	21,226
25-29	17,056	26,307	33,934	34,276	0	0	0	0	25,623
30-34	13,715	26,654	34,089	40,558	0	0	0	0	30,046
35-39	15,920	26,629	34,802	41,976	46,517	37,244	0	0	34,277
40-44	13,746	24,719	35,023	43,016	47,190	49,433	47,475	0	36,544
45-49	13,739	24,227	34,644	43,611	45,598	50,410	51,770	57,703	40,390
50-54	15,555	23,264	34,296	43,456	48,015	51,603	52,242	54,373	45,323
55-59	13,997	21,863	32,855	42,155	47,810	53,259	56,559	58,010	47,537
60-64	10,089	16,037	26,183	39,593	46,563	52,655	58,481	62,669	42,135
65+	8,051	7,883	19,223	37,385	56,946	51,725	63,048	62,739	23,199
ALL	15,197	25,453	34,212	42,594	47,001	51,087	53,276	56,889	37,087

PRIOR FISCAL YEAR EARNINGS (IN MILLIONS) BY YEARS OF SERVICE

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	103	462	441	381	286	342	376	225	2,615

TABLE 4

TEACHERS RETIREMENT ASSOCIATION FUND

SERVICE RETIREMENTS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	235	4	2	0	0	0	0	241
55-59	2,908	792	25	0	0	0	0	3,725
60-64	1,905	2,804	1,735	21	0	0	0	6,465
65-69	442	1,446	3,575	873	9	1	0	6,346
70-74	31	189	1,756	1,974	765	4	0	4,719
75-79	6	22	218	1,363	1,415	235	3	3,262
80-84	0	0	19	161	1,229	718	89	2,216
85+	0	0	1	12	158	1,075	1,305	2,551
ALL	5,527	5,257	7,331	4,404	3,576	2,033	1,397	29,525

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	32,865	28,884	10,770	0	0	0	0	32,615
55-59	31,124	25,918	26,115	0	0	0	0	29,984
60-64	27,730	33,771	32,196	24,580	0	0	0	31,538
65-69	19,893	24,769	29,073	22,151	20,477	1,111	0	26,484
70-74	21,110	18,874	24,576	25,411	26,557	8,592	0	24,982
75-79	30,515	18,415	27,153	23,725	27,192	14,454	22,478	24,765
80-84	0	0	13,221	21,419	24,576	22,391	10,274	22,967
85+	0	0	1,133	13,836	21,750	21,231	14,068	17,556
ALL	29,073	29,508	28,618	24,061	25,900	20,822	13,844	26,617

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	160,687	155,124	209,799	105,965	92,618	42,331	19,340	785,867

TEACHERS RETIREMENT ASSOCIATION FUND

SURVIVORS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	28	37	14	6	0	1	0	86
50-54	22	25	24	3	0	0	0	74
55-59	33	53	39	3	1	0	2	131
60-64	29	86	68	17	6	3	1	210
65-69	73	86	116	51	19	5	4	354
70-74	65	87	110	69	40	7	9	387
75-79	58	72	103	66	35	16	7	357
80-84	22	47	45	34	20	5	16	189
85+	9	23	25	16	18	19	14	124
ALL	339	516	544	265	139	56	53	1,912

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	17,201	19,777	14,790	7,971	0	4,030	0	17,120
50-54	14,665	23,466	12,903	1,994	0	0	0	16,553
55-59	21,764	23,173	18,029	7,770	3,995	0	7,148	20,543
60-64	29,495	25,452	21,485	14,610	12,153	15,948	13,244	23,274
65-69	23,654	24,867	22,846	17,429	23,861	21,698	8,710	22,602
70-74	22,777	20,516	23,258	21,941	22,847	21,674	11,962	21,992
75-79	21,944	25,443	22,989	22,261	23,451	21,433	11,222	22,925
80-84	24,089	23,605	19,157	21,859	28,519	25,781	14,851	22,125
85+	25,752	18,430	17,713	17,994	15,299	18,868	12,044	17,652
ALL	22,477	23,303	21,254	19,731	22,379	20,400	12,355	21,623

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	7,620	12,024	11,562	5,229	3,111	1,142	655	41,343

TABLE 6

TEACHERS RETIREMENT ASSOCIATION FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years Disabled</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	19	21	21	2	0	0	0	63
50-54	22	50	26	8	2	0	0	108
55-59	30	65	46	13	5	0	0	159
60-64	24	45	53	21	9	4	1	157
65-69	4	8	3	5	1	1	0	22
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	99	189	149	49	17	5	1	509

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Disabled</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	8,776	9,338	9,214	6,071	0	0	0	9,023
50-54	18,473	16,841	18,690	10,541	6,467	0	0	16,960
55-59	20,703	24,035	19,848	15,367	24,372	0	0	21,497
60-64	28,876	24,011	22,943	18,375	11,447	10,036	4,245	22,438
65-69	37,275	25,754	37,609	13,619	48,056	27,441	0	27,798
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	20,569	20,566	19,606	15,311	16,816	13,517	4,245	19,553

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	2,036	3,887	2,921	750	286	68	4	9,953

Teachers Retirement Association Fund

TABLE 7

Reconciliation Of Members

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1999	68,613	7,020	18,317
B. ADDITIONS	8,905	4,257	613
C. DELETIONS			
1. Service Retirement	(2,222)	(565)	0
2. Disability	0	0	0
3. Death	(47)	(62)	0
4. Terminated - Deferred	(4,257)	0	0
5. Terminated - Refund	(423)	0	(2,423)
6. Terminated - Other Non-Vested	0	0	0
7. Returned as Active	0	(1,803)	0
8. Transferred to Other Fund	(14)	0	0
D. DATA ADJUSTMENTS	(47)	(1,472)	1,326
Vested	52,708		
Non-Vested	17,800		
E. TOTAL ON JUNE 30, 2000	70,508	7,375	17,833

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1999	27,457	476	1,816
B. ADDITIONS	2,677	83	232
C. DELETIONS			
1. Service Retirement	0	(44)	0
2. Death	(629)	(12)	(30)
3. Annuity Expired	(2)	(1)	(71)
4. Returned as Active	0	(3)	0
D. DATA ADJUSTMENTS	22	10	(35)
E. TOTAL ON JUNE 30, 2000	29,525	509	1,912

Teachers Retirement Association Fund

TABLE 8

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 2000

A. CURRENT ASSETS (TABLE 1, E6)				\$15,573,151
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)				\$318,791
2. Present Value of Future Normal Costs				2,432,646
3. Total Expected Future Assets				<u>\$2,751,437</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				<u>\$18,324,588</u>
D. CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total	
1. Benefit Recipients				
a. Retirement Annuities		\$7,750,796	\$7,750,796	
b. Disability Benefits		124,279	124,279	
c. Surviving Spouse and Child Benefits		326,553	326,553	
2. Deferred Retirements with Future Augmentation		423,446	423,446	
3. Former Members without Vested Rights		62,370	62,370	
4. Active Members				
a. Retirement Annuities	23,907	4,909,453	4,933,360	
b. Disability Benefits	39,312	0	39,312	
c. Survivor's Benefits	43,382	0	43,382	
d. Deferred Retirements	4,681	152,927	157,608	
e. Refund Liability Due to Death or Withdrawal	0	148,505	148,505	
5. Total Current Benefit Obligations	<u>\$111,282</u>	<u>\$13,898,329</u>	<u>\$14,009,611</u>	
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$3,225,476</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$17,235,087</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				(\$1,563,540)
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				(\$1,089,501)

TABLE 9

Teachers Retirement Association Fund

Determination Of Unfunded Actuarial Accrued Liability (UAAL)
And Supplemental Contribution Rate
(dollars in thousands)

JULY 1, 2000

	Actuarial Present Value of Projected Benefits <i>(1)</i>	Actuarial Present Value of Future Normal Costs <i>(2)</i>	Actuarial Accrued Liability <i>(3)=(1)-(2)</i>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$7,890,798	\$2,047,429	\$5,843,369
b. Disability Benefits	67,332	28,162	39,170
c. Survivor's Benefit	73,282	29,056	44,226
d. Deferred Retirements	305,122	164,225	140,897
e. Refunds Due to Death or Withdrawal	211,109	163,774	47,335
f. Total	<u>\$8,547,643</u>	<u>\$2,432,646</u>	<u>\$6,114,997</u>
2. Deferred Retirements With Future Augmentation	423,446		423,446
3. Former Members Without Vested Rights	62,370		62,370
4. Annuitants in MPRIF	8,055,622		8,055,622
5. Recipients Not in MPRIF	<u>146,006</u>		<u>146,006</u>
6. Total	<u>\$17,235,087</u>	<u>\$2,432,646</u>	<u>\$14,802,441</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$14,802,441
2. Current Assets (Table 1, E6)			<u>15,573,151</u>
3. UAAL (B1-B2)			<u><u>(\$770,710)</u></u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2030			\$52,260,768
2. Supplemental Contribution Rate (B3/C1)			-1.47%

Teachers Retirement Association Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)
(dollars in thousands)

YEAR ENDING JUNE 30, 2000

A. UAAL AT BEGINNING OF YEAR	(\$751,678)
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$265,734
2. Contribution	(273,115)
3. Interest on A, B1 and B2	(64,206)
	<hr/>
4. Total (B1+B2+B3)	(\$71,587)
C. EXPECTED UAAL AT END OF YEAR (A+B4)	(\$823,265)
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$117,377)
2. Investment Return	(554,336)
3. MPRIF Mortality	9,767
4. Mortality of Other Benefit Recipients	(4,992)
5. Other Items	185,473
	<hr/>
6. Total	(\$481,465)
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	(\$1,304,730)
F. CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	155,306
G. CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	378,714
	<hr/>
H. UAAL AT END OF YEAR (E+F+G)	<u><u>(\$770,710)</u></u>

TABLE 11

Teachers Retirement Association Fund

Determination Of Contribution Sufficiency*(dollars in thousands)*

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	5.00%	\$140,710
2. Employer Contributions	5.00%	140,710
3. Total	10.00%	\$281,420
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.76%	\$218,325
b. Disability Benefits	0.10%	2,856
c. Survivors	0.10%	2,799
d. Deferred Retirement Benefits	0.48%	13,371
e. Refunds Due to Death or Withdrawal	0.65%	18,395
f. Total	9.09%	\$255,746
2. Supplemental Contribution Amortization by July 1, 2030 of UAAL	-1.47%	(41,361)
3. Allowance for Expenses	0.30%	8,441
4. Total	7.92%	\$222,826
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	2.08%	\$58,594

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is \$2,813,696.

Teachers Retirement Association Fund

Summary of Actuarial Assumptions and Methods

<i>Interest:</i>	Pre-Retirement: 8.5% per annum Post-Retirement: 8.5% per annum
<i>Benefit Increases After Retirement:</i>	Payment of earnings on retired reserves in excess of 6% accounted for by 6% post-retirement assumptions.
<i>Interest on Member Contributions:</i>	Members and former Members who are eligible for the money purchase annuity are assumed to receive interest credits equal to the Pre-Retirement Interest rate. All other Members and former Members receive the interest crediting rate as specified in statutes.
<i>Salary Increases:</i>	Reported salary for prior fiscal year, with new hires annualized, increased according to the table below to current fiscal year and annually for each future year.
<i>Mortality:</i>	Pre-Retirement: Male - 1983 Group Annuity Mortality Table for males set back ten years. Female - 1983 Group Annuity Mortality Table for females set back eight years. Post-Retirement: Male - Same as above except set back five years. Female - Same as above except set back four years. Post-Disability: Male - 1965 RRB rates through age 54. For ages 55 to 64, graded rates between 1965 RRB rates and the Post-Retirement mortality table. For ages 65 and later, the Post-Retirement mortality table. Female - 1965 RRB rates through age 54. For ages 55 to 64, graded rates between 1965 RRB rates and the Post-Retirement mortality table. For ages 65 and later, the Post-Retirement mortality table.

TABLE 12
(Continued)

Retirement Age: Graded rates beginning at age 55 as shown in rate table. Members who have attained the highest assumed retirement age will retire in one year.

Separation: Select and ultimate rates were based on plan experience as of June 30, 1996. Ultimate rates after the third year are shown in rate table. Select rates are as follows:

<u>Gender</u>	<u>First Year</u>	<u>Second Year</u>	<u>Third Year</u>
Male	.40	.14	.08
Female	.35	.12	.08

Disability: Rates as shown in table.

Expenses: Prior year expenses expressed as percentage of prior year payroll.

Allowance for Combined Service Annuity: Liabilities for active and deferred vested participants are increased by 1.0% to account for the effect of some Participants having eligibility for a Combined Service Annuity.

Return of Contributions: All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.

Family Composition: 85% of male Members and 65% of female Members are assumed to be married. Female is three years younger than male. Assume Members have no children.

Social Security: N/A

Special Consideration: Married Members assumed to elect subsidized joint and survivor form of annuity as follows:

Males -	15% elect 50% J&S option 15% elect 75% J&S option 50% elect 100% J&S option
Females -	20% elect 50% J&S option 10% elect 75% J&S option 30% elect 100% J&S option

TABLE 12
(Continued)

<i>Actuarial Cost Method:</i>	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
<i>Asset Valuation Method:</i>	Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during the fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.
<i>Payment on the Unfunded Actuarial Accrued Liability:</i>	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5% per annum. If there is a negative Unfunded Actuarial Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

Teachers Retirement Association Fund

Table 12

(Continued)

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

Age	Pre-Retirement				Retirement				
	Death		Withdrawal		Disability		Rule of 90		Salary
	Male	Female	Male	Female	Male	Female	Eligible	Other	Increases
20	3	1	300	400	0	0	0	0	8.00%
21	3	1	300	400	0	0	0	0	7.95%
22	3	1	300	400	0	0	0	0	7.90%
23	3	1	300	400	0	0	0	0	7.85%
24	3	1	300	400	0	0	0	0	7.80%
25	3	2	300	400	0	0	0	0	7.75%
26	3	2	300	400	0	0	0	0	7.70%
27	3	2	300	400	0	0	0	0	7.65%
28	4	2	290	400	0	0	0	0	7.60%
29	4	2	280	400	0	0	0	0	7.55%
30	4	2	270	400	0	0	0	0	7.50%
31	4	2	260	400	0	0	0	0	7.40%
32	4	2	250	400	0	1	0	0	7.30%
33	4	3	250	380	0	1	0	0	7.20%
34	4	3	250	360	0	1	0	0	7.10%
35	5	3	250	340	1	1	0	0	7.00%
36	5	3	250	320	1	1	0	0	6.85%
37	5	3	250	300	1	1	0	0	6.70%
38	5	3	240	280	1	1	0	0	6.55%
39	6	4	230	260	2	1	0	0	6.40%
40	6	4	220	240	2	2	0	0	6.25%
41	6	4	210	220	3	2	0	0	6.10%
42	7	4	200	200	3	2	0	0	5.95%
43	7	5	190	190	4	2	0	0	5.80%
44	8	5	180	180	4	2	0	0	5.65%

Teachers Retirement Association Fund

Table 12

(Continued)

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

<u>Age</u>	Pre-Retirement		Withdrawal		Disability		Retirement		Salary <u>Increases</u>
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Rule of 90 Eligible</u>	<u>Other</u>	
45	9	5	170	170	5	2	0	0	5.50%
46	9	6	160	160	5	2	0	0	5.45%
47	10	6	150	150	6	2	0	0	5.40%
48	10	7	140	140	6	2	0	0	5.35%
49	11	7	130	130	7	2	0	0	5.30%
50	12	8	120	120	7	3	0	0	5.25%
51	14	8	110	110	8	3	0	0	5.20%
52	15	9	100	100	9	3	0	0	5.15%
53	17	10	90	90	9	4	0	0	5.10%
54	19	11	80	80	10	4	0	0	5.05%
55	22	12	70	70	10	5	4,500	500	5.00%
56	25	14	60	60	11	5	4,500	500	5.00%
57	28	15	50	50	12	6	4,500	600	5.00%
58	31	16	33	33	13	7	4,500	700	5.00%
59	35	18	17	17	14	9	4,500	1,000	5.00%
60	39	19	0	0	15	11	4,500	1,200	5.00%
61	43	21	0	0	16	12	4,500	2,300	5.00%
62	48	23	0	0	17	13	4,500	3,300	5.00%
63	52	25	0	0	19	15	4,500	3,000	5.00%
64	57	28	0	0	21	19	4,500	4,500	5.00%
65	61	31	0	0	0	0	6,000	6,000	5.00%
66	66	34	0	0	0	0	4,000	4,000	5.00%
67	71	38	0	0	0	0	4,000	4,000	5.00%
68	77	42	0	0	0	0	4,000	4,000	5.00%
69	84	47	0	0	0	0	4,000	4,000	5.00%
70	92	52	0	0	0	0	4,000	4,000	5.00%
71	101	58	0	0	0	0	10,000	10,000	5.00%

TABLE 14

Teachers Retirement Association Fund

SCHEDULE OF FUNDING PROGRESS

(dollars in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (B)	Unfunded AAL (UAAL) (B-A)	Funded Ratio (A)/(B)	Actual Covered Payroll (Previous FY) (C)	UAAL as % of Covered Payroll (B-A)/(C)
07/01/91	\$ 5,614,924	\$ 7,213,720	\$1,598,796	77.84%	\$1,943,375	82.27%
07/01/92	6,324,733	7,662,522	1,337,789	82.54	1,989,624	67.24
07/01/93	7,045,937	8,266,059	1,220,122	85.24	2,065,881	59.06
07/01/94	7,611,936	9,115,266	1,503,330	83.51	2,150,300	69.91
07/01/95	8,348,124	9,717,623	1,369,499	85.91	2,204,693	62.12
07/01/96	9,541,221	10,366,168	824,947	92.04	2,268,390	36.37
07/01/97	11,103,759	10,963,637	(140,122)	101.28	2,359,011	-5.94
07/01/98	12,727,546	12,046,312	(681,234)	105.66	2,422,957	-28.12
07/01/99	14,011,247	13,259,569	(751,678)	105.67	2,625,254	-28.63
07/01/00	15,573,151	14,802,441	(770,710)	105.21	2,704,575	-28.50

TABLE 15

Teachers Retirement Association Fund
SCHEDULE OF EMPLOYER CONTRIBUTIONS
(dollars in thousands)

Year Ended June 30	Actuarially Required Contribution Rate (A)	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contribution [(A)x(B)]-(C)	Actual Employer Contribution ⁽¹⁾	Percentage Contributed
1991	13.11%	\$1,943,375	\$ 89,313	\$165,463	\$159,439	96.36%
1992	13.04	1,989,624	91,506	167,941	162,370	96.68
1993	13.13	2,065,881	94,709	176,541	168,071	95.20
1994	12.75	2,150,300	100,803	173,360	171,855	99.13
1995	14.73	2,204,693	143,536	181,215	179,672	99.15
1996	14.30	2,268,390	148,051	176,329	184,495	104.63
1997	12.78	2,359,011	154,161	147,321	191,670	130.10
1998	9.55 ⁽²⁾	2,422,957	124,096	107,296	151,323	141.03
1999	8.39 ⁽²⁾	2,625,254	132,040	88,219	130,526	147.96
2000	8.36 ⁽²⁾	2,704,575	138,696	87,406	134,419	153.79
2001	7.92 ⁽³⁾					

(1) Includes contributions from other sources (if applicable).

(2) Actuarially Required Contribution Rate calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded accrued liability.

(3) Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Asset Valuation Method is 7.31%.

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TABLE 3A
BASIC

Teachers Retirement Association Fund
ACTIVE MEMBERS AS OF JUNE 30, 2000

Age	Years of Service								ALL
	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	4	4
65+	0	0	0	0	0	0	0	7	7
ALL	0	0	0	0	0	0	0	11	11

AVERAGE ANNUAL EARNINGS

Age	Years of Service								ALL
	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	47,845	47,845
65+	0	0	0	0	0	0	0	56,610	56,610
ALL	0	0	0	0	0	0	0	53,423	53,423

PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE

Age	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
All	0	0	0	0	0	0	0	588	588

TABLE 4A
BASIC

TEACHERS RETIREMENT ASSOCIATION FUND

SERVICE RETIREMENTS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	1	0	0	0	0	0	0	1
60-64	15	42	187	8	0	0	0	252
65-69	17	55	475	271	4	0	0	822
70-74	2	13	171	485	322	1	0	994
75-79	2	0	31	222	488	103	3	849
80-84	0	0	1	32	331	295	58	717
85+	0	0	0	2	35	383	503	923
ALL	37	110	865	1,020	1,180	782	564	4,558

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	54,801	0	0	0	0	0	0	54,801
60-64	43,835	45,273	55,661	27,851	0	0	0	52,343
65-69	43,942	43,023	52,384	41,246	24,948	0	0	47,778
70-74	22,113	30,835	40,799	45,016	42,225	7,593	0	43,117
75-79	25,042	0	51,099	37,683	40,393	20,687	22,478	37,585
80-84	0	0	790	29,209	37,901	30,201	12,822	32,265
85+	0	0	0	24,420	34,536	27,841	18,235	22,853
ALL	41,991	42,442	50,696	41,748	39,968	27,764	17,701	37,629

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	1,554	4,669	43,852	42,583	47,162	21,711	9,983	171,513

TABLE 5A
BASIC

TEACHERS RETIREMENT ASSOCIATION FUND

SURVIVORS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	1	1	0	1	0	1	0	4
50-54	1	0	0	0	0	0	0	1
55-59	0	0	2	0	0	0	2	4
60-64	2	10	5	2	3	2	1	25
65-69	9	20	27	11	11	5	4	87
70-74	9	19	20	16	16	5	8	93
75-79	15	14	25	17	8	6	6	91
80-84	5	9	15	6	8	3	13	59
85+	3	5	8	5	2	5	7	35
ALL	45	78	102	58	48	27	41	399

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	24,926	29,167	0	24,231	0	4,030	0	20,589
50-54	31,590	0	0	0	0	0	0	31,590
55-59	0	0	42,033	0	0	0	7,148	24,590
60-64	38,741	30,703	27,377	31,106	20,694	22,608	13,244	28,166
65-69	39,829	43,358	37,199	31,488	31,871	21,698	8,710	35,290
70-74	43,778	34,322	37,127	30,907	30,601	20,996	10,272	31,827
75-79	23,105	42,199	35,784	35,252	29,265	25,849	12,150	31,795
80-84	27,460	29,900	23,932	34,031	49,277	24,610	15,368	27,753
85+	45,616	23,050	23,348	24,148	19,143	23,262	10,210	22,448
ALL	33,493	36,290	33,414	31,923	32,685	22,517	11,920	30,735

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	1,507	2,831	3,408	1,852	1,569	608	489	12,263

TABLE 6A
BASIC

TEACHERS RETIREMENT ASSOCIATION FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

Age	Years Disabled							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	1	1	1	0	0	0	0	3
65-69	0	0	0	0	1	1	0	2
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	1	1	1	0	1	1	0	5

AVERAGE ANNUAL BENEFIT

Age	Years Disabled							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	83,604	4,020	62,425	0	0	0	0	50,016
65-69	0	0	0	0	48,056	27,441	0	37,749
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	83,605	4,020	62,425	0	48,056	27,441	0	45,109

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	84	4	62	0	48	27	0	226

Teachers Retirement Association Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	9.00%	\$56
2. Employer Contributions	9.00%	56
3. Total	<u>18.00%</u>	<u>\$112</u>
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	12.15%	\$75
b. Disability Benefits	0.16%	1
c. Survivors	0.16%	1
d. Deferred Retirement Benefits	0.16%	1
e. Refunds Due to Death or Withdrawal	<u>2.27%</u>	<u>14</u>
f. Total	<u>14.90%</u>	<u>\$92</u>

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is \$617.

Teachers Retirement Association Fund

Summary of Plan Provisions

GENERAL

Eligibility:

A public school or MNSCU teacher who is not covered by the Social Security Act, except for teachers employed by Minneapolis, St. Paul or Duluth public schools or by the University of Minnesota.

No MNSCU teacher is a Member if that person elected coverage under Chapter 354B.

Contributions:

Member: 9.0% of salary.

Employer: 9.0% of salary.

Allowable Service: A day of credit is earned if five hours are taught that day. A year is earned if 170 days of service are credited. Credit may also be provided for certain leaves if contributions are paid into the fund.

Salary: Compensation used for contribution purposes excluding lump-sum annual or sick leave payments, severance payments, any payments made in lieu of employer paid fringe benefits or expenses, and employer contributions to a Section 457 deferred compensation plan.

Average Salary: Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

RETIREMENT

Normal Retirement:

Eligibility: Age 65 and three years of Allowable Service. Age 62 and 30 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.

Early Retirement Eligibility:

Eligibility: Age 55 and three years of Allowable Service. Any age with 30 years of Allowable Service. Rule of 90: Age plus Allowable Service totals 90.

Retirement Amount: The greater of 2.2% of Average Salary for each of the first 10 years of Allowable Service and 2.7% of Average Salary for each subsequent year with reduction of 0.25% for each month the Member is under age 65 at time of retirement or under age 62 if 30 years of Allowable Service. No reduction if age plus years of Allowable Service totals 90;

OR

2.7% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3% per year and actuarial reduction for each month the Member is under age 65;

OR

for eligible Members, money purchase annuity equal to the actuarial equivalent of 220% of the Member's accumulated deductions plus interest thereon.

Form of Payment: Life annuity.
Actuarially equivalent options are:
50%, 75% or 100% joint and survivor with bounce back feature without additional reduction.
15 year certain and life.
Guaranteed refund.

Benefit Increases: Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A Member who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least

TABLE 13A
BASIC
(Continued)

one full month but less than 12 full months will receive a partial pro rata increase.

Members retired under laws in effect before July 1, 1973 receive an additional lump-sum payment from TRA each year. In 1989, this lump-sum payment was the greater of \$25 times each full year of Allowable Service or the difference between \$400 times each full year of Allowable Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump-sum payment increases by the same percentage increase that is applied to regular annuities paid from MPRIF.

Members who terminate service after June 30, 1997 and whose benefits commence during the period July 2, 1997 through July 1, 2002 shall receive a percentage of the July 1, 1997 permanent increase as follows:

July 2, 1997 - July 1, 1999	50%
July 2, 1999 - July 1, 1999	40%
July 2, 1999 - July 1, 2000	30%
July 2, 2000 - July 1, 2001	20%
July 2, 2001 - July 1, 2002	10%

DISABILITY

Disability Benefit:

<i>Eligibility:</i>	Total and permanent disability before normal retirement age with three years of Allowable Service.
<i>Amount:</i>	Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before normal retirement age unless an optional annuity plan is selected. Supplemental benefit of \$25 per month.
	A Member who became disabled before July 1, 1997 whose benefit does not commence until after June 30, 1997 shall

TABLE 13A
BASIC
(Continued)

receive an actuarially equivalent increase to reflect the change from 5% to 6% in the post-retirement interest assumption.

Payments stop at normal retirement age or the five year anniversary of the effective date of the disability benefit, whichever is later. Payments stop earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment. If death occurs before retirement status, the surviving spouse and dependent children are eligible for survivor benefits.

Form of Payment: Same as for retirement.

Benefit Increases: Adjusted by TRA to provide same increase as MPRIF.

Members who become disabled after June 30, 1997 and whose benefits commence during the period July 1, 1997 through July 1, 2002 shall receive a percentage of the July 1, 1997 permanent increase as follows:

July 2, 1997 - July 1, 1999	50%
July 2, 1999 - July 1, 1999	40%
July 2, 1999 - July 1, 2000	30%
July 2, 2000 - July 1, 2001	20%
July 2, 2001 - July 1, 2002	10%

Retirement After Disability:

Eligibility: Normal retirement age or the five year anniversary of the effective date of the disability benefit, whichever is later.

Amount: Any optional annuity continues. Otherwise, the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.

Benefit Increases: Same as for retirement.

DEATH

Surviving Spouse Benefit:

<i>Eligibility:</i>	Active Member with 18 months of Allowable Service or Member receiving a disability benefit.
<i>Amount:</i>	50% of salary for the last full fiscal year preceding death. Maximum family benefit is \$1,000 per month. Benefits paid until spouse's death. Surviving spouse optional annuity or refund of contributions may be elected in lieu of this benefit.

Surviving Dependent Child Benefit:

<i>Eligibility:</i>	Active Member with 18 months of Allowable Service or Member receiving a disability benefit.
<i>Amount:</i>	10% of salary for the last full fiscal year preceding death. Family benefit minimum (including spouse's benefit) of 50% of salary and maximum \$1,000 per month. Benefits paid until child marries, dies, or attains age 18 (age 22 if full-time student.)

Surviving Spouse Optional Annuity:

<i>Eligibility:</i>	Member or former Member with three years of Allowable Service who dies before retirement or disability benefits commence.
<i>Amount:</i>	Survivor's payment of the 100% joint and survivor benefit or an actuarial equivalent term certain annuity. If commencement is prior to age 65 (age 62 if 30 years of service), the benefit is reduced same as early retirement with half the applicable reduction factor used from age 55 to the actual commencement age. If no surviving spouse, then an actuarial equivalent dependent child benefit is paid to age 20 or for five years if longer.

TABLE 13A
BASIC
(Continued)

A survivor of a Member who terminated service before July 1, 1997 whose benefit does not commence until after June 30, 1997 shall receive an actuarially equivalent increase to reflect the change from 5% to 6% in the post-retirement interest assumption.

Benefit Increases: Adjusted by TRA to provide same increase as MPRIF except surviving spouse optional annuity benefit increases which are paid from MPRIF.

Survivors of Members who terminate service and die after June 30, 1997 and whose benefits commence during the period July 2, 1997 through July 1, 2002 shall receive a percentage of the July 1, 1997 permanent increase as follows:

July 2, 1997 - July 1, 1999	50%
July 2, 1999 - July 1, 1999	40%
July 2, 1999 - July 1, 2000	30%
July 2, 2000 - July 1, 2001	20%
July 2, 2001 - July 1, 2002	10%

Refund of Contributions:

Eligibility: Member dies before receiving any retirement benefits and survivor benefits are not elected.

Amount: The excess of the Member's contributions over any disability benefits paid plus 5% interest compounded annually if death occurred before May 16, 1989 and 6% interest compounded annually if death occurred on or after May 16, 1989.

TERMINATION

Refund of Contributions:

Eligibility: Thirty days following termination of teaching service.

Amount: Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989 and 6% interest compounded annually if termination occurred on or

TABLE 13A
BASIC
(Continued)

after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

Deferred Benefit:

Eligibility:

Vested at date of termination. Current requirement is three years of Allowable Service.

Amount:

Benefit computed under law in effect at termination and increased by the following percentage compounded annually: 0% before 7/1/71; 5% from 7/1/71 to 1/1/81; and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

A Member who terminated service before July 1, 1997 whose benefit does not commence until after June 30, 1997 shall receive an actuarially equivalent increase to reflect the change from 5% to 6% in the post-retirement interest assumption;

OR

for eligible former Members, money purchase annuity equal to the actuarial equivalent of 220% of the former Member's accumulated deductions plus interest thereon.

Members who terminate service after June 30, 1997 and whose benefits commence during the period July 2, 1997 through July 1, 2002 shall receive a percentage of the July 1, 1997 permanent increase as follows:

July 2, 1997 - July 1, 1999	50%
July 2, 1999 - July 1, 1999	40%
July 2, 1999 - July 1, 2000	30%
July 2, 2000 - July 1, 2001	20%
July 2, 2001 - July 1, 2002	10%

SUMMARY OF SIGNIFICANT CHANGES

No significant changes recognized for this valuation.

**TABLE 3B
COORDINATED**

Teachers Retirement Association Fund

ACTIVE MEMBERS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	1,236	1,083	0	0	0	0	0	0	2,319
25-29	1,382	6,299	905	1	0	0	0	0	8,587
30-34	725	3,381	4,342	547	0	0	0	0	8,995
35-39	714	1,826	2,216	2,605	478	1	0	0	7,840
40-44	775	1,756	1,602	1,806	1,879	710	2	0	8,530
45-49	720	1,696	1,735	1,641	1,499	2,965	1,208	1	11,465
50-54	516	1,203	1,361	1,467	1,331	1,930	4,196	1,648	13,652
55-59	342	568	521	665	672	844	1,293	1,967	6,872
60-64	182	220	166	189	211	223	332	288	1,811
65+	150	112	43	20	18	27	20	36	426
ALL	6,742	18,144	12,891	8,941	6,088	6,700	7,051	3,940	70,497

AVERAGE ANNUAL EARNINGS

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	17,130	25,900	0	0	0	0	0	0	21,226
25-29	17,056	26,307	33,934	34,276	0	0	0	0	25,623
30-34	13,715	26,654	34,089	40,558	0	0	0	0	30,046
35-39	15,920	26,629	34,802	41,976	46,517	37,244	0	0	34,277
40-44	13,746	24,719	35,023	43,016	47,190	49,433	47,475	0	36,544
45-49	13,739	24,227	34,644	43,611	45,598	50,410	51,770	57,703	40,390
50-54	15,555	23,264	34,296	43,456	48,015	51,603	52,242	54,373	45,323
55-59	13,997	21,863	32,855	42,155	47,810	53,259	56,559	58,010	47,537
60-64	10,089	16,037	26,183	39,593	46,563	52,655	58,481	62,872	42,122
65+	8,051	7,883	19,223	37,385	56,946	51,725	63,048	63,934	22,650
ALL	15,197	25,453	34,212	42,594	47,001	51,087	53,276	56,898	37,085

PRIOR FISCAL YEAR EARNINGS (IN MILLIONS) BY YEARS OF SERVICE

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	103	462	441	381	286	342	376	224	2,614

TABLE 4B
COORDINATED

TEACHERS RETIREMENT ASSOCIATION FUND

SERVICE RETIREMENTS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	235	4	2	0	0	0	0	241
55-59	2,907	792	25	0	0	0	0	3,724
60-64	1,890	2,762	1,548	13	0	0	0	6,213
65-69	425	1,391	3,100	602	5	1	0	5,524
70-74	29	176	1,585	1,489	443	3	0	3,725
75-79	4	22	187	1,141	927	132	0	2,413
80-84	0	0	18	129	898	423	31	1,499
85+	0	0	1	10	123	692	802	1,628
ALL	5,490	5,147	6,466	3,384	2,396	1,251	833	24,967

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	32,865	28,884	10,770	0	0	0	0	32,615
55-59	31,116	25,918	26,115	0	0	0	0	29,977
60-64	27,602	33,596	29,362	22,568	0	0	0	30,695
65-69	18,931	24,047	25,501	13,555	16,900	1,111	0	23,316
70-74	21,041	17,991	22,826	19,025	15,168	8,925	0	20,142
75-79	33,251	18,415	23,183	21,009	20,242	9,590	0	20,255
80-84	0	0	13,912	19,487	19,665	16,944	5,509	18,520
85+	0	0	1,133	11,719	18,112	17,572	11,454	14,553
ALL	28,986	29,232	25,665	18,730	18,971	16,483	11,232	24,607

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	159,133	150,457	165,950	63,382	45,455	20,620	9,356	614,363

TABLE 5B
COORDINATED

TEACHERS RETIREMENT ASSOCIATION FUND

SURVIVORS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	27	36	14	5	0	0	0	82
50-54	21	25	24	3	0	0	0	73
55-59	33	53	37	3	1	0	0	127
60-64	27	76	63	15	3	1	0	185
65-69	64	66	89	40	8	0	0	267
70-74	56	68	90	53	24	2	1	294
75-79	43	58	78	49	27	10	1	266
80-84	17	38	30	28	12	2	3	130
85+	6	18	17	11	16	14	7	89
ALL	294	438	442	207	91	29	12	1,513

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Since Death</u>							<u>ALL</u>
	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	16,915	19,516	14,790	4,719	0	0	0	16,951
50-54	13,859	23,466	12,903	1,994	0	0	0	16,347
55-59	21,764	23,173	16,732	7,770	3,995	0	0	20,415
60-64	28,810	24,761	21,017	12,411	3,613	2,626	0	22,613
65-69	21,379	19,264	18,492	13,563	12,848	0	0	18,467
70-74	19,402	16,658	20,176	19,235	17,677	23,368	25,487	18,881
75-79	21,539	21,398	18,888	17,754	21,729	18,783	5,653	19,890
80-84	23,098	22,114	16,769	19,251	14,680	27,538	12,609	19,570
85+	15,820	17,147	15,061	15,196	14,819	17,299	13,879	15,766
ALL	20,790	20,990	18,448	16,315	16,943	18,430	13,843	19,220

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<u>Age</u>	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	6,112	9,194	8,154	3,377	1,542	535	166	29,080

TABLE 6B
COORDINATED

TEACHERS RETIREMENT ASSOCIATION FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

<u>Age</u>	<u>Years Disabled</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	19	21	21	2	0	0	0	63
50-54	22	50	26	8	2	0	0	108
55-59	30	65	46	13	5	0	0	159
60-64	23	44	52	21	9	4	1	154
65-69	4	8	3	5	0	0	0	20
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	98	188	148	49	16	4	1	504

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Disabled</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	8,776	9,338	9,214	6,071	0	0	0	9,023
50-54	18,473	16,841	18,690	10,541	6,467	0	0	16,960
55-59	20,703	24,035	19,848	15,367	24,372	0	0	21,497
60-64	26,497	24,465	22,183	18,375	11,447	10,036	4,245	21,901
65-69	37,275	25,754	37,609	13,619	0	0	0	26,803
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	19,926	20,654	19,316	15,311	14,864	10,036	4,245	19,300

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	1,953	3,883	2,859	750	238	40	4	9,727

Teachers Retirement Association Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	5.00%	\$140,654
2. Employer Contributions	5.00%	140,654
3. Total	10.00%	\$281,308
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.76%	\$218,250
b. Disability Benefits	0.10%	2,855
c. Survivors	0.10%	2,797
d. Deferred Retirement Benefits	0.48%	13,371
e. Refunds Due to Death or Withdrawal	0.65%	18,381
f. Total	9.09%	\$255,654

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is \$2,813,079.

Teachers Retirement Association Fund Coordinated

Summary of Plan Provisions

GENERAL

<i>Eligibility:</i>	A public school or MNSCU teacher who is covered by the Social Security Act, except for teachers employed by Minneapolis, St. Paul or Duluth public schools or by the University of Minnesota. No MNSCU teacher will become a new Member unless that person elects coverage under Chapter 354.
<i>Contributions:</i>	
<i>Member:</i>	5.0% of salary.
<i>Employer:</i>	5.0% of salary.
<i>Allowable Service:</i>	A day of credit is earned if five hours are taught that day. A year is earned if 170 days of service are credited. Credit may also be provided for certain leaves if contributions are paid into the fund.
<i>Salary:</i>	Compensation used for contribution purposes excluding lump-sum annual or sick leave payments, severance payments, any payments made in lieu of employer paid fringe benefits or expenses, and employer contributions to a Section 457 deferred compensation plan.
<i>Average Salary:</i>	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

RETIREMENT

Normal Retirement:

Eligibility:

First hired before July 1, 1989:

Age 65 and three years of Allowable Service. Age 62 and 30 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.

First hired after June 30, 1989:

The greater of age 65 or the age eligible for full Social Security retirement benefits (but not to exceed age 66) and three years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.

Early Retirement:

Eligibility:

First hired before July 1, 1989:

Age 55 and three years of Allowable Service.
Any age with 30 years of Allowable Service.
Rule of 90: Age plus Allowable Service totals 90.

First hired after June 30, 1989:

Age 55 with three years of Allowable Service.

Retirement Amount: First hired before July 1, 1989:

The greater of 1.2% of Average Salary for each of the first 10 years of Allowable Service and 1.7% of Average Salary for each subsequent year with reduction of 0.25% for each month the Member is under age 65 at time of retirement (age 62 if 30 years of Allowable Service). No reduction if age plus years of Allowable Service totals 90;

OR

1.7% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3% per year and actuarial reduction for each month the Member is under age 65;

OR

for eligible Members, money purchase annuity equal to the actuarial equivalent of 220% of the Member's accumulated deductions plus interest thereon.

TABLE 13B
COORDINATED
(Continued)

First hired after June 30, 1989:

1.7% of Average Salary for each year of Allowable Service assuming augmentation to age eligible for full Social Security retirement benefits at 3% per year and actuarial reduction for each month the Member is under the full Social Security benefit retirement age but not to exceed age 66.

Form of Payment:

Life annuity.

Actuarially equivalent options are:

50%, 75% or 100% joint and survivor with bounce back feature without additional reduction.

15 year certain and life.

Guaranteed refund.

Benefit Increases:

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A Member who has been receiving a benefit for at least 12 full months as of the previous June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will receive a partial pro rata increase.

Members retired under laws in effect before July 1, 1973 receive an additional lump-sum payment from TRA each year. In 1989, this lump-sum payment was \$25 times each full year of Allowable Service. In each following year, the lump-sum payment increases by the same percentage increase that is applied to regular annuities paid from MPRIF.

Members who terminate service after June 30, 1997 and whose benefits commence during the period July 2, 1997 through July 1, 2002 shall receive a percentage of the July 1, 1997 permanent increase as follows:

July 2, 1997 - July 1, 1999	50%
July 2, 1999 - July 1, 1999	40%
July 2, 1999 - July 1, 2000	30%
July 2, 2000 - July 1, 2001	20%
July 2, 2001 - July 1, 2002	10%

DISABILITY

Disability Benefit:

Eligibility: Total and permanent disability before normal retirement age with three years of Allowable Service.

Amount: Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before normal retirement age unless an optional annuity plan is selected.

Payments stop at normal retirement age or the five year anniversary of the effective date of the disability benefit, whichever is later. Payments stop earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.

A Member who became disabled before July 1, 1997 whose benefit does not commence until after June 30, 1997 shall receive an actuarially equivalent increase to reflect the change from 5% to 6% in the post-retirement interest assumption.

Form of Payment: Same as for retirement.

Benefit Increases: Adjusted by TRA to provide same increase as MPRIF.

Members who become disabled after June 30, 1997 and whose benefits commence during the period July 1, 1997 through July 1, 2002 shall receive a percentage of the July 1, 1997 permanent increase as follows:

July 2, 1997 - July 1, 1999	50%
July 2, 1999 - July 1, 1999	40%
July 2, 1999 - July 1, 2000	30%
July 2, 2000 - July 1, 2001	20%
July 2, 2001 - July 1, 2002	10%

TABLE 13B
COORDINATED
(Continued)

Retirement After Disability:

<i>Eligibility:</i>	Normal retirement age or the five year anniversary of the effective date of the disability benefit, whichever is later.
<i>Amount:</i>	Any optional annuity continues. Otherwise, the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.
<i>Benefit Increases:</i>	Same as for retirement.

DEATH

Surviving Spouse Optional Annuity:

<i>Eligibility:</i>	Member or former Member with three years of Allowable Service who dies before retirement benefits commence.
<i>Amount:</i>	<p>Survivor's payment of the 100% joint and survivor benefit or an actuarial equivalent term certain annuity. If commencement is prior to age 65 (age 62 if 30 years of service), the benefit is reduced same as early retirement with half the applicable reduction factor used from age 55 to the actual commencement age. If no surviving spouse, then an actuarial equivalent dependent child benefit is paid to age 20 or for five years if longer.</p> <p>A survivor of a Member who terminated service before July 1, 1997 whose benefit does not commence until after June 30, 1997 shall receive an actuarially equivalent increase to reflect the change from 5% to 6% in the post-retirement interest assumption.</p>

TABLE 13B
COORDINATED
(Continued)

Benefit Increases: Same as for retirement.

Survivors of Members who terminate service and die after June 30, 1997 and whose benefits commence during the period July 2, 1997 through July 1, 2002 shall receive a percentage of the July 1, 1997 permanent increase as follows:

July 2, 1997 - July 1, 1999	50%
July 2, 1999 - July 1, 1999	40%
July 2, 1999 - July 1, 2000	30%
July 2, 2000 - July 1, 2001	20%
July 2, 2001 - July 1, 2002	10%

Refund of Contributions:

Eligibility: Member dies before receiving any retirement benefits and the surviving spouse optional annuity is not elected.

Amount: The excess of the Member's contributions over any disability benefits paid plus 5% interest compounded annually if death occurred before May 16, 1989 and 6% interest compounded annually if death occurred on or after May 16, 1989.

TERMINATION

Refund of Contributions:

Eligibility: Thirty days following termination of teaching service.

Amount: Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989 and 6% interest compounded annually if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

TABLE 13B
COORDINATED
(Continued)

Deferred Benefit:

Eligibility: Vested at date of termination. Current requirement is three years of Allowable Service.

Amount: The greater of benefit computed under law in effect at termination and increased by the following percentage compounded annually: 0% before 7/1/71; 5% from 7/1/71 to 1/1/81; and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement. A Member who terminated service before July 1, 1997 whose benefit does not commence until after June 30, 1997 shall receive an actuarially equivalent increase to reflect the change from 5% to 6% in the post-retirement interest assumption;

OR

for eligible former Members, money purchase annuity equal to the actuarial equivalent of 220% of the former Member's accumulated deductions plus interest thereon.

Members who terminate service after June 30, 1997 and whose benefits commence during the period July 2, 1997 through July 1, 2002 shall receive a percentage of the July 1, 1997 permanent increase as follows:

July 2, 1997 - July 1, 1999	50%
July 2, 1999 - July 1, 1999	40%
July 2, 1999 - July 1, 2000	30%
July 2, 2000 - July 1, 2001	20%
July 2, 2001 - July 1, 2002	10%

SUMMARY OF SIGNIFICANT CHANGES

No significant changes were recognized for this valuation.

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