

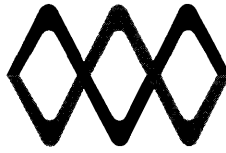
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Teachers Retirement Association Fund
ACTUARIAL VALUATION REPORT

July 1, 1997



MILLIMAN & ROBERTSON, INC.

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December 5, 1997

Legislative Commission on
Pensions and Retirement
55 State Office Building
St. Paul, Minnesota 55155

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, 1997.

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)

	07/01/96 Valuation	07/01/97 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 354 % of Payroll	14.66%	11.64%
2. Required Contributions - Chapter 356 % of Payroll	12.78%	9.85%
3. Sufficiency (Deficiency): (A.1. - A.2.)	1.88%	1.79%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$9,541,221	\$11,103,759
b. Current Benefit Obligations (Table 8)	\$9,696,539	\$10,262,081
c. Funding Ratio: (a/b)	98.40%	108.20%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$9,541,221	\$11,103,759
b. Actuarial Accrued Liability (Table 9)	\$10,366,168	\$10,963,637
c. Funding Ratio: (a/b)	92.04%	101.28%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$13,494,541	\$14,067,718
b. Current and Expected Future Benefit Obligations	\$12,769,666	\$13,231,366
c. Funding Ratio: (a/b)	105.68%	106.32%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	68,490	68,554
b. Projected Annual Earnings	\$2,391,385	\$2,475,599
c. Average Annual Earnings (Actual \$)	\$34,916	\$36,112
d. Average Age	42.9	43.1
e. Average Service	12.4	12.6
2. Others		
a. Service Retirements (Table 4)	22,434	23,678
b. Survivors (Table 5)	1,464	1,578
c. Disability Retirements (Table 6)	409	425
d. Deferred Retirements (Table 7)	5,767	6,356
e. Terminated Other Non-vested (Table 7)	16,444	16,653
f. Total	46,518	48,690

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 108.20%. The corresponding ratio for the prior year was 98.40%.
- ° 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 1997 the ratio is 101.28%, which is an increase from the 1996 value of 92.04%.
- ° 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)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines E1 to E6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

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 superseded by Statement No. 25. Tables 14 and 15 of this report have been added to fulfill the new requirements of Statement No. 25. For this transition year only, disclosure in accordance with Statement No. 5 is shown below as of JULY 1, 1997:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$5,161,326,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$3,199,837,000
Employer-financed vested	1,652,702,000
Employer-financed nonvested	<u>248,216,000</u>
Total Pension Benefit Obligation	\$10,262,081,000
Net Assets Available for Benefits at Cost	\$10,904,134,000
Total Benefit Obligation less Assets	(\$642,053,000)
Funded Ratio	106.26%

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 the 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.

Sources 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 expectation. 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 11.64% compared to the Required Contribution Rate of 9.85%.

Changes in Actuarial Assumptions

There were no changes in Actuarial Assumptions for the current valuation.

Changes in Plan Provisions

There were significant changes in Plan Provisions as outlined on pages 36 and 48 which affected plan costs for the current valuation.

TABLE 1

Teachers Retirement Association Fund

Statement of Plan Net Assets*(dollars in thousands)*

JULY 1, 1997

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	\$25,003	\$25,003
2. Fixed Income	1,492,576	1,485,063
3. Equity	4,953,168	4,357,336
4. Real Estate	238,450	242,920
5. Equity in MPRIF	4,808,918	4,808,918
6. Other	1,546,865	1,546,865
Subtotal	<u>\$13,064,980</u>	<u>\$12,466,105</u>
B. ASSETS RECEIVABLE	35,592	35,592
C. LIABILITIES	(1,597,563)	(1,597,563)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	4,808,918	4,808,918
2. Member Reserves	1,252,843	1,252,843
3. Other Non-MPRIF Reserves	5,441,248	4,842,373
4. Total Assets Available for Benefits	<u>\$11,503,009</u>	<u>\$10,904,134</u>
<hr/>		
E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D4)		\$10,904,134
2. Market Value (D4)	\$11,503,009	
3. Cost Value (D4)	<u>10,904,134</u>	
4. Market Over Cost: (E2-E3)	\$598,875	
5. One-third of Market Over Cost: (E4)/3		199,625
6. Actuarial Value of Assets (E1+E5) (Same as "Current Assets")		<u>\$11,103,759</u>

TABLE 2

Teachers Retirement Association Fund

Statement of Change In Plan Net Assets*(dollars in thousands)*

YEAR ENDING JUNE 30, 1997

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$9,852,173	\$9,385,746
B. ADDITIONS		
1. Member Contributions	\$154,161	\$154,161
2. Employer Contributions	191,670	191,670
3. Contributions From Other Sources	0	0
4. MPRIF Income	522,021	522,021
5. Net Investment Income		
a. Interest and Dividends	615,884	615,884
b. Net Realized Gain (Loss)	486,832	486,832
c. Net Change in Unrealized Gain (Loss)	132,447	0
d. Investment Expenses	(9,207)	(9,207)
Net Subtotal	1,225,956	1,093,509
6. Other	705	705
7. Total Additions	<u>\$2,094,513</u>	<u>\$1,962,065</u>
C. OPERATING EXPENSES		
1. Service Retirements paid from MPRIF	\$411,956	\$411,956
2. Service Retirements paid from plan assets	2,458	2,458
2. Disability Benefits	6,285	6,285
3. Survivor Benefits	6,888	6,888
4. Refunds	10,899	10,899
6. Administrative Expenses	4,552	4,552
7. Other	639	639
8. Total Disbursements	<u>\$443,677</u>	<u>\$443,677</u>
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	<u><u>\$11,503,009</u></u>	<u><u>\$10,904,134</u></u>

TABLE 3

TEACHERS RETIREMENT ASSOCIATION FUND

ACTIVE MEMBERS AS OF JUNE 30, 1997

Age	Years of Service								ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	1,434	136	0	0	0	0	0	0	1,570
25-29	2,590	5,132	536	0	0	0	0	0	8,258
30-34	826	2,726	3,459	297	0	0	0	0	7,308
35-39	1,011	1,507	2,094	2,413	360	1	0	0	7,386
40-44	998	1,741	1,690	1,569	2,624	592	0	0	9,214
45-49	916	1,636	1,891	1,571	1,805	4,345	1,351	0	13,515
50-54	492	969	1,071	1,127	1,166	1,768	4,581	816	11,990
55-59	305	350	412	547	665	873	2,013	1,832	6,997
60-64	155	152	189	149	167	262	410	435	1,919
65+	91	108	25	28	20	30	42	53	397
ALL	8,818	14,457	11,367	7,701	6,807	7,871	8,397	3,136	68,554

AVERAGE ANNUAL EARNINGS

Age	Years of Service								ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	16,390	24,606	0	0	0	0	0	0	17,102
25-29	14,555	24,761	30,935	0	0	0	0	0	21,961
30-34	13,911	23,464	31,819	36,737	0	0	0	0	26,878
35-39	12,499	23,306	31,504	38,353	40,797	28,949	0	0	29,920
40-44	12,660	21,999	32,164	38,364	42,807	46,022	0	0	33,108
45-49	11,611	21,286	32,206	38,604	42,679	46,206	47,360	0	37,647
50-54	11,743	19,136	30,610	38,612	43,238	47,083	49,352	50,352	41,822
55-59	9,773	17,637	26,375	36,717	42,400	47,330	51,499	51,514	43,970
60-64	8,411	10,551	22,218	31,777	41,708	48,466	52,397	53,915	39,834
65+	6,984	8,170	25,151	33,341	43,344	45,486	53,079	53,645	26,157
ALL	13,529	22,815	31,349	38,120	42,675	46,584	49,714	51,581	34,066

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

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	119	330	356	294	291	367	417	162	2,335

TABLE 4

TEACHERS RETIREMENT ASSOCIATION FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1997

Age	YEARS RETIRED							ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25+	
<50	0	0	0	0	0	0	0	0
50-54	13	16	0	0	0	0	0	29
55-59	845	1,114	15	0	0	0	0	1,974
60-64	724	3,204	1,121	6	0	0	0	5,055
65-69	205	1,812	2,283	1,147	4	0	0	5,451
70-74	17	224	1,348	1,996	353	1	0	3,939
75-79	0	16	232	1,504	984	155	2	2,893
80-84	0	2	12	204	1,232	560	86	2,096
85+	0	0	1	5	108	1,336	791	2,241
ALL	1,804	6,388	5,012	4,862	2,681	2,052	879	23,678

AVERAGE ANNUAL BENEFIT

Age	YEARS RETIRED							ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25+	
<50	0	13,141	0	0	0	0	0	0
50-54	18,857	19,026	0	0	0	0	0	18,950
55-59	26,968	22,511	17,494	3,836	0	0	0	24,381
60-64	22,887	27,818	24,196	22,614	0	0	0	26,303
65-69	17,365	19,867	20,205	20,217	9,152	0	0	19,980
70-74	12,885	18,280	17,805	21,207	12,627	17,210	0	19,071
75-79	0	9,593	16,081	18,784	17,132	9,345	16,147	17,447
80-84	0	956	8,767	17,613	16,912	15,183	6,347	16,023
85+	0	0	843	2,849	13,923	13,167	8,101	11,387
ALL	24,048	24,227	20,222	20,056	16,297	13,431	7,948	20,071

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	43,383	154,762	101,353	97,512	43,692	27,560	6,986	475,241

TABLE 5

TEACHERS RETIREMENT ASSOCIATION FUND

SURVIVORS AS OF JUNE 30, 1997

Age	YEARS SINCE DEATH							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	7	55	9	3	1	0	0	75
50-54	10	45	9	0	1	1	0	66
55-59	20	55	31	5	1	0	1	113
60-64	25	87	60	18	6	2	1	199
65-69	21	121	89	45	17	4	4	301
70-74	16	112	113	59	21	6	2	329
75-79	16	90	81	54	18	10	10	279
80-84	8	37	36	24	22	9	10	146
85+	4	12	13	10	17	5	9	70
ALL	127	614	441	218	104	37	37	1,578

AVERAGE ANNUAL BENEFIT

Age	YEARS SINCE DEATH							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	18,444	13,293	7,137	3,470	2,999	0	0	12,505
50-54	19,105	15,569	10,381	0	2,973	6,419	0	15,068
55-59	18,303	14,116	15,059	9,545	15,948	0	4,244	14,842
60-64	17,741	20,086	13,688	17,196	13,291	9,349	10,043	17,238
65-69	18,829	16,200	16,691	14,536	16,784	13,019	4,261	16,112
70-74	19,756	16,327	17,669	17,234	19,132	13,020	3,810	17,160
75-79	21,604	15,993	16,942	18,355	18,387	15,721	6,206	16,842
80-84	16,999	15,193	13,275	14,377	19,061	13,328	6,230	14,539
85+	7,818	15,038	13,776	9,333	8,334	8,791	7,930	10,588
ALL	18,537	16,167	15,776	15,909	16,161	12,877	6,343	15,905

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

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>	ALL
All	2,354	9,927	6,957	3,468	1,681	476	235	25,098

TABLE 6

TEACHERS RETIREMENT ASSOCIATION FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1997

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	5	37	16	2	0	0	0	60
50-54	8	48	11	6	3	0	0	76
55-59	16	75	33	12	8	1	0	145
60-64	2	38	58	20	5	3	1	127
65-69	0	10	6	1	0	0	0	17
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	31	208	124	41	16	4	1	425

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	9,003	9,987	7,196	4,310	0	0	0	8,971
50-54	18,180	14,115	11,892	9,935	23,361	0	0	14,256
55-59	20,106	18,788	13,370	13,643	8,897	3,159	0	16,621
60-64	12,079	17,457	19,691	14,391	13,401	6,764	7,974	17,423
65-69	0	20,815	25,551	35,312	0	0	0	23,339
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	17,300	15,998	15,989	13,538	13,016	5,863	7,974	15,627

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>	ALL
All	536	3,328	1,983	555	208	24	8	6,642

TABLE 7

Teachers Retirement Association Fund

Reconciliation Of Members

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1996	68,490	5,767	16,444
B. ADDITIONS	6,652	893	3,861
C. DELETIONS			
1. Service Retirement	(1,509)	(265)	0
2. Disability	0	0	0
3. Death	(52)	(39)	0
4. Terminated - Deferred	(4,455)	0	0
5. Terminated - Refund	(586)	0	(1,362)
6. Terminated - Other Non-Vested	0	0	(1,046)
7. Returned as Active	0	0	(1,221)
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	14	0	(23)
Vested	51,116		
Non-Vested	17,438		
E. TOTAL ON JUNE 30, 1997	68,554	6,356	16,653

	Retirement Annuitants	Recipients	
		Disabled	Survivors
A. ON JUNE 30, 1996	22,434	409	1,464
B. ADDITIONS	1,807	68	188
C. DELETIONS			
1. Service Retirement	0	(28)	0
2. Death	(564)	(21)	(33)
3. Annuity Expired	0	0	(42)
4. Returned as Active	0	(4)	0
D. DATA ADJUSTMENTS	1	1	1
E. TOTAL ON JUNE 30, 1997	23,678	425	1,578

TABLE 8

Teachers Retirement Association Fund

Actuarial Balance Sheet*(dollars in thousands)*

JULY 1, 1997

A. CURRENT ASSETS (TABLE 1, E6)				\$11,103,759
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)				\$696,230
2. Present Value of Future Normal Costs				<u>2,267,729</u>
3. Total Expected Future Assets				<u>\$2,963,959</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				<u>\$14,067,718</u>
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>	
1. Benefit Recipients				
a. Retirement Annuities		\$4,637,320	\$4,637,320	
b. Disability Benefits		79,913	79,913	
c. Surviving Spouse and Child Benefits		193,485	193,485	
2. Deferred Retirements with Future Augmentation		236,548	236,548	
3. Former Members without Vested Rights		14,060	14,060	
4. Active Members				
a. Retirement Annuities	11,767	4,685,421	4,697,188	
b. Disability Benefits	175,119	0	175,119	
c. Survivor's Benefits	60,120	0	60,120	
d. Deferred Retirements	1,210	92,034	93,244	
e. Refund Liability Due to Death or Withdrawal	0	75,084	75,084	
5. Total Current Benefit Obligations	<u>\$248,216</u>	<u>\$10,013,865</u>	<u>\$10,262,081</u>	
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$2,969,285</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$13,231,366</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				(\$841,678)
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				(\$836,352)

TABLE 9

Teachers Retirement Association Fund

**Determination Of Unfunded Actuarial Accrued Liability (UAAL)
And Supplemental Contribution Rate**

(dollars in thousands)

JULY 1, 1997

	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	\$7,411,682	\$1,821,090	\$5,590,592
b. Disability Benefits	287,207	114,036	173,171
c. Survivor's Benefit	93,585	34,279	59,306
d. Deferred Retirements	158,940	76,995	81,945
e. Refunds Due to Death or Withdrawal	118,626	221,329	(102,703)
f. Total	<u>\$8,070,040</u>	<u>\$2,267,729</u>	<u>\$5,802,311</u>
2. Deferred Retirements With Future Augmentation	236,548		236,548
3. Former Members Without Vested Rights	14,060		14,060
4. Annuitants in MPRIF	4,808,918		4,808,918
5. Recipients Not in MPRIF	<u>101,800</u>		<u>101,800</u>
6. Total	<u>\$13,231,366</u>	<u>\$2,267,729</u>	<u>\$10,963,637</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$10,963,637
2. Current Assets (Table 1, E6)			<u>11,103,759</u>
3. UAAL (B1-B2)			<u>(\$140,122)</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			\$38,895,525
2. Supplemental Contribution Rate (B3/C1)			0.00%

Teachers Retirement Association Fund

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

YEAR ENDING JUNE 30, 1997

A. UAAL AT BEGINNING OF YEAR	\$824,947
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$254,878
2. Contribution	(345,831)
3. Interest on A, B1 and B2	<u>66,255</u>
4. Total (B1+B2+B3)	<u>(\$24,698)</u>
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$800,249
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$115,603)
2. Investment Return	(660,151)
3. MPRIF Mortality	13,926
4. Mortality of Other Benefit Recipients	(4,682)
5. Other Items	<u>23,163</u>
6. Total	<u>(\$743,347)</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$56,902
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	(197,024)
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	<u>0</u>
H. UAAL AT END OF YEAR (E+F+G)	<u><u>(\$140,122)</u></u>

TABLE 11

Teachers Retirement Association Fund

Determination Of Contribution Sufficiency*(dollars in thousands)*

JULY 1, 1997

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	5.00%	\$123,892
2. Employer Contributions	6.64%	164,492
3. Total	<u>11.64%</u>	<u>\$288,384</u>
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.82%	\$193,540
b. Disability benefits	0.47%	11,612
c. Survivors	0.15%	3,655
d. Deferred Retirement Benefits	0.26%	6,438
e. Refunds Due to Death or Withdrawal	<u>0.96%</u>	<u>23,662</u>
f. Total	<u>9.66%</u>	<u>\$238,907</u>
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	0.00%	0
3. Allowance for Expenses	<u>0.19%</u>	<u>4,704</u>
4. Total	<u>9.85%</u>	<u>\$243,611</u>
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	1.79%	\$44,773

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1997 is \$2,475,599.

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>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 eight years. Female - 1983 Group Annuity Mortality Table for females set back four years. Post-Retirement: Male - Same as above except set back four years. Female - Same as above except set back two years. Post-Disability: Male - 1977 Railroad Retirement Board Mortality for Disabled Annuitants up to retirement age. Female - 1977 Railroad Retirement Board Mortality for Disabled Annuitants up to retirement age. Revert to post-retirement assumption at retirement.
<i>Retirement Age:</i>	Age 62 or if over age 62, one year from valuation date. 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.

TABLE 12
(Continued)

Separation: Select and ultimate rates were based on plan experience as of June 30, 1989. Ultimate rates after the third year are shown in rate table. Select rates are as follows:

	<u>First Year</u>	<u>Second Year</u>	<u>Third Year</u>
Less than 35	.3	.15	.1
35-44	.25	.125	.08
45-60	.3	.15	.1

Disability: Rates as shown in table.

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

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 0% elect 75% J&S option 50% elect 100% J&S option
Females -	10% elect 50% J&S option 0% elect 75% J&S option 10% elect 100% J&S option

Actuarial Cost Method: 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.

TABLE 12
(Continued)

<i>Asset Valuation Method:</i>	Cost Value plus one-third Unrealized Gains or Losses.
<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.

TABLE 12
(Continued)

Teachers Retirement Association Fund

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Separations Expressed as the Number of Occurrences Per 10,000:

<u>Age</u>	<u>Death</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>		<u>Salary Increases</u>
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	
20	3	1	600	600	4	4	0	0	7.25%
21	3	2	600	600	4	4	0	0	7.25
22	3	2	600	600	4	4	0	0	7.25
23	3	2	600	600	5	5	0	0	7.20
24	3	2	600	600	5	5	0	0	7.15
25	3	2	600	600	5	5	0	0	7.10
26	4	2	600	600	5	5	0	0	7.05
27	4	2	600	600	5	5	0	0	7.00
28	4	2	600	600	5	5	0	0	7.00
29	4	3	580	580	5	5	0	0	7.00
30	4	3	565	565	6	6	0	0	7.00
31	4	3	540	540	6	6	0	0	7.00
32	4	3	520	520	6	6	0	0	7.00
33	5	3	500	500	6	6	0	0	7.00
34	5	3	480	480	6	6	0	0	7.00
35	5	4	440	440	6	6	0	0	7.00
36	5	4	370	370	7	7	0	0	7.00
37	6	4	330	330	7	7	0	0	7.00
38	6	4	280	280	8	8	0	0	6.90
39	6	5	240	240	8	8	0	0	6.80
40	7	5	210	210	8	8	0	0	6.70
41	7	5	195	195	9	9	0	0	6.60
42	8	6	185	185	9	9	0	0	6.50
43	9	6	175	175	10	10	0	0	6.35
44	9	7	160	160	10	10	0	0	6.20
45	10	7	145	145	11	11	0	0	6.05
46	10	8	130	130	12	12	0	0	5.90
47	11	8	115	115	13	13	0	0	5.75
48	12	9	100	100	14	14	0	0	5.70
49	14	10	85	85	16	16	0	0	5.65

TABLE 12
(Continued)

Teachers Retirement Association Fund

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Separations Expressed as the Number of Occurrences Per 10,000:

<u>Age</u>	<u>Preretirement Death</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>		<u>Salary Increases</u>
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	
50	15	11	70	70	17	17	0	0	5.60%
51	17	12	55	55	19	19	0	0	5.55
52	19	14	40	40	22	22	0	0	5.50
53	22	15	25	25	26	26	0	0	5.45
54	25	16	10	10	30	30	0	0	5.40
55	28	18	0	0	36	36	0	0	5.35
56	31	19	0	0	41	41	0	0	5.30
57	35	21	0	0	47	47	0	0	5.25
58	39	23	0	0	52	52	0	0	5.25
59	43	25	0	0	58	58	0	0	5.25
60	48	28	0	0	63	63	0	0	5.25
61	52	31	0	0	69	69	0	0	5.25
62	57	34	0	0	0	0	10,000	10,000	5.25
63	61	38	0	0	0	0	0	0	5.25
64	66	42	0	0	0	0	0	0	5.25
65	71	47	0	0	0	0	0	0	5.25
66	77	52	0	0	0	0	0	0	5.25
67	84	58	0	0	0	0	0	0	5.25
68	92	64	0	0	0	0	0	0	5.25
69	101	71	0	0	0	0	0	0	5.25

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%

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*	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%

* Includes contributions from other sources (if applicable).

TABLE 3A
BASIC

TEACHERS RETIREMENT ASSOCIATION FUND

ACTIVE MEMBERS AS OF JUNE 30, 1997

Age	Years of Service								ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<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	3	7	10
60-64	0	0	0	0	0	1	0	31	32
65+	0	0	0	0	0	0	0	12	12
ALL	0	0	0	0	0	1	3	50	54

AVERAGE ANNUAL EARNINGS

Age	Years of Service								ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<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	56,598	56,326	56,408
60-64	0	0	0	0	0	9,946	0	47,155	45,992
65+	0	0	0	0	0	0	0	52,213	52,213
ALL	0	0	0	0	0	9,946	56,598	49,653	49,303

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

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	0	0	0	0	0	10	170	2,483	2,662

TABLE 4A
BASIC

TEACHERS RETIREMENT ASSOCIATION FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1997

<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	6	19	1	0	0	0	0	26
60-64	20	307	281	4	0	0	0	612
65-69	12	132	386	466	2	0	0	998
70-74	1	24	160	623	160	0	0	968
75-79	0	0	32	374	384	86	2	878
80-84	0	1	1	52	371	266	65	756
85+	0	0	0	0	38	409	326	773
ALL	39	483	861	1,519	955	761	393	5,011

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	25,093	36,637	2,187	0	0	0	0	32,648
60-64	38,243	40,860	36,561	22,856	0	0	0	38,683
65-69	33,199	31,904	33,842	32,519	8,188	0	0	32,908
70-74	3,475	24,878	29,678	33,526	19,003	0	0	30,244
75-79	0	0	22,186	29,500	23,199	13,119	16,147	24,843
80-84	0	588	2,592	27,618	23,847	18,401	7,172	20,698
85+	0	0	0	0	14,562	18,355	10,715	14,946
ALL	33,776	37,369	33,449	31,995	22,373	17,779	10,156	27,071

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	1,317	18,049	28,800	48,600	21,366	13,530	3,991	135,653

TABLE 5A
BASIC

TEACHERS RETIREMENT ASSOCIATION FUND

SURVIVORS AS OF JUNE 30, 1997

<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	0	1	0	1	0	0	3
50-54	0	1	0	0	0	1	0	2
55-59	0	2	4	1	1	0	1	9
60-64	6	12	8	9	4	2	1	42
65-69	5	24	24	16	11	3	4	87
70-74	5	19	34	16	5	5	2	86
75-79	7	19	14	16	7	5	9	77
80-84	0	11	11	4	9	3	8	46
85+	1	2	4	4	3	0	6	20
ALL	25	90	100	66	41	19	31	372

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	21,705	0	18,032	0	2,999	0	0	14,246
50-54	0	42,156	0	0	0	6,419	0	24,288
55-59	0	25,906	21,753	23,228	15,948	0	4,244	20,249
60-64	21,394	29,751	20,986	23,725	18,810	9,349	10,043	23,114
65-69	35,134	24,922	23,927	20,743	18,753	11,036	4,261	22,257
70-74	25,823	28,704	26,602	21,198	23,322	13,473	3,810	24,532
75-79	26,608	21,250	31,885	30,389	20,822	22,118	6,366	23,848
80-84	0	20,297	17,632	26,984	24,247	11,447	5,323	17,833
85+	12,413	17,888	16,359	9,743	13,911	0	7,767	12,047
ALL	26,141	25,081	24,574	23,348	20,068	14,238	5,982	22,011

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	654	2,257	2,457	1,541	823	271	185	8,188

TABLE 6A
BASIC

TEACHERS RETIREMENT ASSOCIATION FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1997

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	1	0	0	0	0	0	1
60-64	0	4	5	1	0	0	0	10
65-69	0	0	1	1	0	0	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	0	5	6	2	0	0	0	13

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	48,798	0	0	0	0	0	48,798
60-64	0	16,856	54,590	64,317	42,027	0	0	40,469
65-69	0	0	81,566	35,312	0	0	0	58,439
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	0	23,244	59,086	49,815	0	0	0	43,874

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>	ALL
All	0	116	355	100	0	0	0	570

TABLE 11A
Basic

Teachers Retirement Association Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 1997

	<u>Percent of Payroll</u>	<u>Dollar Amount</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	9.00%	\$252
2. Employer Contributions	10.64%	298
3. Total	<u>19.64%</u>	<u>\$550</u>
 B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	12.67%	\$355
b. Disability benefits	0.71%	20
c. Survivors	0.36%	10
d. Deferred Retirement Benefits	0.04%	1
e. Refunds Due to Death or Withdrawal	<u>2.39%</u>	<u>67</u>
f. Total	<u>16.17%</u>	<u>\$453</u>

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1997 is \$2,803.

Teachers Retirement Association Fund

Summary of Plan Provisions

GENERAL

Eligibility:

A public school or community college 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 community college teacher is a Member if that person elected coverage under Chapter 354B.

Contributions:

Member: 9.0% of salary.

Employer: 10.64% of salary. This will be reduced by 1.64% when full funding occurs.

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.

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

TABLE 13A
BASIC
(Continued)

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, 1998	50%
July 2, 1998 - 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. 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, 1998	50%
July 2, 1998 - 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 Allowance 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, 1998	50%
July 2, 1998 - 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.

TABLE 13A
BASIC
(Continued)

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.

Deferred Benefit:

Eligibility: 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.

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, 1998	50%
July 2, 1998 - 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

1. Decrease of 1.5% in both Member and Employer contribution rates to 9.0% and 10.64%, respectively. The employer contribution will be reduced by 1.64% when full funding occurs.
2. All formula percentage factors increased by 0.07%.
3. Benefits are increased by the applicable percentage (50% to 10%) of the July 1, 1997 permanent increase for Members who terminate after June 30, 1997 and for whom benefits commence during the period July 2, 1997 through July 1, 2002.
4. Post-retirement benefit increases are paid on excess earnings over 6% instead of 5%. For those who do not receive the new formula percentage factors, a one-time increase in their benefits is made equal in cost to the change in the post-retirement benefit increase change.

**TABLE 3B
COORDINATED**

TEACHERS RETIREMENT ASSOCIATION FUND

ACTIVE MEMBERS AS OF JUNE 30, 1997

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	1,434	136	0	0	0	0	0	0	1,570
25-29	2,590	5,132	536	0	0	0	0	0	8,258
30-34	826	2,726	3,459	297	0	0	0	0	7,308
35-39	1,011	1,507	2,094	2,413	360	1	0	0	7,386
40-44	998	1,741	1,690	1,569	2,624	592	0	0	9,214
45-49	916	1,636	1,891	1,571	1,805	4,345	1,351	0	13,515
50-54	492	969	1,071	1,127	1,166	1,768	4,581	816	11,990
55-59	305	350	412	547	665	873	2,010	1,825	6,987
60-64	155	152	189	149	167	261	410	404	1,887
65+	91	108	25	28	20	30	42	41	385
ALL	8,818	14,457	11,367	7,701	6,807	7,870	8,394	3,086	68,500

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	16,390	24,606	0	0	0	0	0	0	17,102
25-29	14,555	24,761	30,935	0	0	0	0	0	21,961
30-34	13,911	23,464	31,819	36,737	0	0	0	0	26,878
35-39	12,499	23,306	31,504	38,353	40,797	28,949	0	0	29,920
40-44	12,660	21,999	32,164	38,364	42,807	46,022	0	0	33,108
45-49	11,611	21,286	32,206	38,604	42,679	46,206	47,360	0	37,647
50-54	11,743	19,136	30,610	38,612	43,238	47,083	49,352	50,352	41,822
55-59	9,773	17,637	26,375	36,717	42,400	47,330	51,491	51,499	43,953
60-64	8,411	10,551	22,218	31,777	41,708	48,612	52,397	54,441	39,730
65+	6,984	8,170	25,151	33,341	43,344	45,486	53,079	54,067	25,345
ALL	13,529	22,815	31,349	38,120	42,675	46,589	49,711	51,615	34,054

PRIOR FISCAL YEAR EARNINGS (IN MILLIONS) 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	119	330	356	294	291	367	417	159	2,333

**TABLE 4B
COORDINATED**

TEACHERS RETIREMENT ASSOCIATION FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1997

Age	YEARS RETIRED							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	13	16	0	0	0	0	0	29
55-59	839	1,095	14	0	0	0	0	1,948
60-64	704	2,897	840	2	0	0	0	4,443
65-69	193	1,680	1,897	681	2	0	0	4,453
70-74	16	200	1,188	1,373	193	1	0	2,971
75-79	0	16	200	1,130	600	69	0	2,015
80-84	0	1	11	152	861	294	21	1,340
85+	0	0	1	5	70	927	465	1,468
ALL	1,765	5,905	4,151	3,343	1,726	1,291	486	18,667

AVERAGE ANNUAL BENEFIT

Age	YEARS RETIRED							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	13,141	0	0	0	0	0	0
50-54	18,857	19,026	0	0	0	0	0	18,950
55-59	26,982	22,266	18,587	3,836	0	0	0	24,271
60-64	22,451	26,436	20,060	22,132	0	0	0	24,597
65-69	16,381	18,921	17,430	11,800	10,117	0	0	17,083
70-74	13,474	17,489	16,206	15,617	7,341	17,210	0	15,430
75-79	0	9,593	15,105	15,238	13,249	4,640	0	14,225
80-84	0	1,324	9,328	14,190	13,923	12,272	3,791	13,385
85+	0	0	843	2,849	13,577	10,878	6,268	9,513
ALL	23,833	23,152	17,478	14,631	12,934	10,867	6,161	18,192

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

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>	ALL
All	42,065	136,713	72,551	48,911	22,324	14,029	2,994	339,590

**TABLE 5B
COORDINATED**

TEACHERS RETIREMENT ASSOCIATION FUND

SURVIVORS AS OF JUNE 30, 1997

Age	YEARS SINCE DEATH							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	6	55	8	3	0	0	0	72
50-54	10	44	9	0	1	0	0	64
55-59	20	53	27	4	0	0	0	104
60-64	19	75	52	9	2	0	0	157
65-69	16	97	65	29	6	1	0	214
70-74	11	93	79	43	16	1	0	243
75-79	9	71	67	38	11	5	1	202
80-84	8	26	25	20	13	6	2	100
85+	3	10	9	6	14	5	3	50
ALL	102	524	341	152	63	18	6	1,206

AVERAGE ANNUAL BENEFIT

Age	YEARS SINCE DEATH							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	17,900	13,293	5,775	3,470	0	0	0	12,432
50-54	19,105	14,965	10,381	0	2,973	0	0	14,780
55-59	18,303	13,671	14,067	6,124	0	0	0	14,374
60-64	16,587	18,540	12,565	10,668	2,252	0	0	15,666
65-69	13,734	14,042	14,020	11,112	13,173	18,966	0	13,614
70-74	16,998	13,799	13,824	15,758	17,822	10,757	0	14,551
75-79	17,712	14,587	13,820	13,288	16,838	9,325	4,762	14,171
80-84	16,999	13,034	11,358	11,856	15,471	14,269	9,856	13,024
85+	6,286	14,468	12,628	9,060	7,138	8,791	8,256	10,004
ALL	16,673	14,636	13,196	12,679	13,618	11,440	8,207	14,022

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

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>	ALL
All	1,701	7,669	4,500	1,927	858	206	49	16,911

TABLE 6B
COORDINATED

TEACHERS RETIREMENT ASSOCIATION FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1997

<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	5	37	16	2	0	0	0	60
50-54	8	48	11	6	3	0	0	76
55-59	16	74	33	12	8	1	0	144
60-64	2	34	53	19	5	3	1	117
65-69	0	10	5	0	0	0	0	15
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	31	203	118	39	16	4	1	412

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	9,003	9,987	7,196	4,310	0	0	0	8,971
50-54	18,180	14,115	11,892	9,935	23,361	0	0	14,256
55-59	20,106	18,383	13,370	13,643	8,897	3,159	0	16,398
60-64	12,079	17,527	16,399	11,763	4,996	6,764	7,974	15,094
65-69	0	20,815	14,348	0	0	0	0	18,659
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	17,300	15,820	13,797	11,678	10,390	5,863	7,974	14,633

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	536	3,212	1,628	455	166	24	8	6,029

Teachers Retirement Association Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 1997

	<u>Percent of Payroll</u>	<u>Dollar Amount</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	5.00%	\$123,640
2. Employer Contributions	6.64%	164,194
3. Total	<u>11.64%</u>	<u>\$287,834</u>
 B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.81%	\$193,185
b. Disability benefits	0.47%	11,591
c. Survivors	0.15%	3,645
d. Deferred Retirement Benefits	0.26%	6,437
e. Refunds Due to Death or Withdrawal	<u>0.95%</u>	<u>23,594</u>
f. Total	<u>9.64%</u>	<u>\$238,452</u>

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1997 is \$2,472,797.

Teachers Retirement Association Fund Coordinated

Summary of Plan Provisions

GENERAL

Eligibility:

A public school, community college or state university teacher, 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.

Contributions:

Member: 5.0% of salary.

Employer: 6.64% of salary. This will be reduced by 1.64% when full funding occurs.

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:

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.

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, 1998	50%
July 2, 1998 - 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, 1998	50%
July 2, 1998 - 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.
<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>	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.

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.

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, 1998	50%
July 2, 1998 - 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.

Deferred Benefit:

Eligibility: Three years of Allowable Service.

TABLE 13B
COORDINATED
(Continued)

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.

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, 1998	50%
July 2, 1998 - 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

1. Decrease of 1.5% in both Member and Employer contribution rates to 5.0% and 6.64%, respectively. The employer contribution will be reduced by 1.64% when full funding occurs.
2. All formula percentage factors increased by 0.07%.
3. Normal Retirement Age requirement for Members hired after June 30, 1989 who terminate service after June 30, 1997 is capped at age 66.
4. Benefits are increased by the applicable percentage (50% to 10%) of the July 1, 1997 permanent increase for Members who terminate after June 30, 1997 and for whom benefits commence during the period July 2, 1997 through July 1, 2002.
5. Post-retirement benefit increases are paid on excess earnings over 6% instead of 5%. For those who do not receive the new formula percentage factors, a one-time increase in their benefits is made equal in cost to the change in the post-retirement benefit increase change.