STATE OF MINNESOTA
TEACHERS' RETIREMENT ASSOCIATION

ACTUARIAL REPORT

Prepared for the
Board of Trustees
as of
July 1, 1992

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MINNESOTA TEACHERS' RETIREMENT FUND
JULY 1, 1992

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SECTION

I

OVERVIEW



REPORT HIGHLIGHTS

	(Dollars in Thousands) 07/01/91 Valuation	07/01/92 Valuation
A. CONTRIBUTIONS		
1. Statutory Contributions - Chapter 354 Percentage of Payroll	12.76%	12.72%
2. Required Contributions - Chapter 356 Percentage of Payroll	13.15%	13.12%
3. Sufficiency (Deficiency) (A1-A2)	(.39%)	(.40%)
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets	$ 5,614,924	$ 6,324,733
b. Current Benefit Obligations	$ 6,514,621	$ 6,941,901
c. Funding Ratio (a/b)	86.19%	91.11%
2. Accrued Liability Funding Ratio		
a. Current Assets	$ 5,614,924	$ 6,324,733
b. Actuarial Accrued Liability	$ 7,157,666	$ 7,557,624
c. Funding Ratio (a/b)	78.45%	83.69%
3. Projected Benefit Funding Ratio		
a. Current and Expected Future Assets	$ 8,983,334	$ 9,450,857
b. Current and Expected Future Benefit Obligations	$ 9,146,481	$ 9,624,257
c. Funding Ratio (a/b)	98.22%	98.20%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number	65,058	65,520
b. Projected Annual Earnings	$ 1,995,643	$ 2,059,725
c. Average Annual Earnings	$ 30,675	$ 31,437
d. Average Age	42.8	42.9
e. Average Service	12.3	12.3
2. Others		
a. Service Retirements	16,995	17,867
b. Disability Retirements	282	297
c. Survivors	969	1,048
d. Deferred Retirements	3,310	3,692
e. Terminated Other Nonvested	14,963	15,308
f. Total	36,519	38,212

DISCUSSION OF RESULTS

Contributions

Statutory and required contribution rates remained relatively stable, as did the level of deficiency. The fund moved from a (.39%) deficiency to a (.40%) deficiency.

Funding Ratio

The Funding Ratios show the percentage of the Plan's liabilities which are covered by the Plan's assets. For this purpose the Plan's assets are valued at Actuarial Value as determined in Table 1, page 6.

Three Funding Ratios are shown:

- the Accrued Benefit Funding Ratio, which is based on the Current Benefit Obligation (a calculation in accordance with Statement No. 5 of the Governmental Accounting Standards Board which represents the liability for current retired and inactive members and for benefits earned to date for active members assuming future pay increases to retirement),
- the Accrued Liability Funding Ratio, which is based on the Actuarial Accrued Liability generated by the Actuarial Funding method used to determine the Plan's Required Contributions, and
- the Projected Benefit Funding Ratio, which is based on the Total Liabilities of the Plan for current retired, inactive, and active members.

This year, both of the plan's funding ratios which measure funding to date have increased substantially (by approximately 5%). This was primarily due to the fund's favorable investment experience. The Projected Benefit Funding Ratio, on the other hand, remained fairly constant.

Due to the contribution deficiency, the Projected Benefit Funding Ratio remained less than one (100%). Thus expected Future Statutory Contributions plus Current Assets is still less than the value of total Expected Benefit Obligations.

SECTION
II

ASSETS

ASSETS

Summaries

July 1, 1992 assets at cost and market value are accounted for in Table 1 which follows. Table 2 shows the changes in these assets during the year ended June 30, 1992.

Development of Current Assets

Section F of Table 1 also shows the development of the "Current Asset" value. This value is used to determine Required Contributions. It is based on cost value plus one-third of the unrealized gains (losses) on funds not included in the Minnesota Post Retirement Investment Fund (MPRIF) at year end.

TABLE 1
July 1, 1992 Accounting Balance Sheet

	(Dollars in Thousands) Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	$ 5,752	$ 5,752
2. Investments		
a. Fixed Income	1,128,408	1,097,174
b. Equity	2,746,479	2,524,987
c. Real Estate	0	0
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)*	2,587,979	2,587,979
4. Other	30,651	30,651
B. TOTAL ASSETS	$ 6,499,269	$ 6,246,543
C. AMOUNTS CURRENTLY PAYABLE*	$ 6,052	$ 6,052
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	$ 886,618	$ 886,618
2. Employer Reserves	3,018,620	2,765,894
3. MPRIF Reserves*	2,587,979	2,587,979
4. Non-MPRIF Reserves	0	0
5. Total Assets Available for Benefits	$ 6,493,217	$ 6,240,491
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	$ 6,499,269	$ 6,246,543
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		$ 6,240,491
2. Market Value (D5)	$ 6,493,217	
3. Cost Value (D5)	6,240,491	
4. Market Over Cost (F2-F3)	$ 252,726	
5. 1/3 of Market Over Cost (F4)/3		84,242
6. Actuarial Value of Assets (Fl + F5) (Same as "Current Assets")		$ 6,324,733

*Reflects mortality gain for 1991-92 of $4,512.

TABLE 2
Changes in Assets Available for Benefits
YEAR ENDING JUNE 30, 1992

	(Dollars in Thousands) Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF YEAR	$ 5,818,210	$ 5,513,281
B. OPERATING REVENUES		
1. Member Contributions	$ 91,506	$ 91,506
2. Employer Contributions	162,370	162,370
3. Investment Income	509,636	509,636
4. MPRIF	203,329	203,329
5. Net Realized Gain (Loss)	0	0
6. Other	1,943	1,943
7. Net Change in Unrealized Gain (Loss)	(52,203)	0
8. Total Revenue	$ 916,581	$ 968,784
C. OPERATING EXPENSES		
1. Service Retirements	$ 220,353	$ 220,353
2. Disability Benefits	3,399	3,399
3. Survivor Benefits	3,315	3,315
4. Refunds	5,495	5,495
5. Expenses	8,236	8,236
6. Other	776	776
7. Total Disbursements	$ 241,574	$ 241,574
D. CHANGES IN RESERVES	0	0
E. FUND BALANCE JUNE 30, 1992	$ 6,493,217	$ 6,240,491

SECTION
III

MEMBERSHIP DATA



MEMBERSHIP DATA

Basis

Data upon which the valuation was based was supplied by the Teachers Retirement Association. We thank them for their excellent cooperation in this area.

Demographics

Tables 3 - 6 which follow present July 1, 1992 demographic information on active and retired members by age and service (years retired). That information is summarized below.

Table		
3. - Total Active Members:		
Count		65,520
Average Pay (91 - 92)	$	29,518
Total Payroll (thousands)	$	1,934,014
3A - Basic Active Members		
Count		477
Average Pay (91 - 92)	$	43,891
Total Payroll (thousands)	$	20,936
3B - Coordinated Active Members		
Count		65,043
Average Pay (91 - 92)	$	29,413
Total Payroll (thousands)	$	1,913,078
4 - Service Retirements		
Count		17,867
Average Annual Benefit	$	12,894
Total Annual Benefit (thousands)	$	230,383
4A - Basic Service Retirements		
Count		5,249
Average Annual Benefit	$	17,602
Total Annual Benefit (thousands)	$	92,393
4B - Coordinated Service Retirements		
Count		12,618
Average Annual Benefit	$	10,936
Total Annual Benefit (thousands)	$	137,990

Demographics - continued

Table

5 - Disabled Members under Retirement Age		
Count		297
Average Annual Benefit	$	11,311
Total Annual Benefit (thousands)	$	3,360
5A - Basic Disabled		
Count		33
Average Annual Benefit	$	24,024
Total Annual Benefit (thousands)	$	793
5B - Coordinated Disabled		
Count		264
Average Annual Benefit	$	9,722
Total Annual Benefit (thousands)	$	2,567
6 - Survivors		
Count		1,048
Average Annual Benefit	$	10,908
Total Annual Benefit (thousands)	$	11,432
6A - Basic Survivors		
Count		334
Average Annual Benefit	$	13,997
Total Annual Benefit (thousands)	$	4,675
6B - Coordinated Survivors		
Count		714
Average Annual Benefit	$	9,463
Total Annual Benefit (thousands)	$	6,757

Table 7 presents a reconciliation of July 1, 1991 and July 1, 1992 data. The number of active members increased by 1% during the year. The number of service retired members increased by 5%.

TABLE 3
Average Annual Earnings and Membership Distribution of Active Members as of June 30, 1992

Membership Distribution

	Years of Service								
Age	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	Total
<20		1							1
20-24	449	1,218							1,667
25-29	1,301	4,192	738						6,231
30-34	658	2,652	2,733	526	1				6,570
35-39	680	2,425	1,794	2,574	858				8,331
40-44	766	2,841	1,934	1,941	3,966	1,691			13,139
45-49	514	1,845	1,494	1,241	1,769	4,286	1,202		12,351
50-54	243	908	793	783	1,005	2,008	2,628	705	9,073
55-59	118	483	332	339	551	1,000	1,271	1,637	5,731
60-64	55	220	109	128	204	410	441	518	2,085
65-69	27	71	20	16	20	58	46	43	301
70+	6	18	5	1	5	1		4	40
Total	4,817	16,874	9,952	7,549	8,379	9,454	5,588	2,907	65,520

Average Annual Earnings

	Years of Service								
Age	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	Total
<20		1,100							1,100
20-24	19,250	5,361							9,102
25-29	16,113	15,339	26,967						16,877
30-34	14,910	16,057	27,735	30,591	22,787				21,965
35-39	13,598	14,297	28,342	32,401	36,676				25,163
40-44	13,651	14,228	29,750	34,188	38,212	40,275			30,020
45-49	12,348	12,789	29,673	34,902	39,643	42,191	43,642		34,087
50-54	11,180	11,800	28,056	33,124	39,710	43,855	44,003	45,438	37,172
55-59	8,981	8,862	23,313	32,308	38,568	43,446	44,936	46,057	38,604
60-64	5,480	5,813	21,624	29,060	37,895	43,240	44,105	45,835	36,599
65-69	4,064	3,203	21,220	33,355	38,771	44,018	48,873	47,316	29,589
70+	4,983	3,676	15,790	8,297	26,018	72,526		51,634	14,812
Total	14,466	13,552	28,262	33,159	38,544	42,394	44,186	45,894	29,518

TABLE 3B - COORDINATED
Average Annual Earnings and Membership Distribution of Active Members as of June 30, 1992

Membership Distribution

	Years of Service								
Age	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	Total
<20		1							1
20-24	449	1,218							1,667
25-29	1,301	4,192	738						6,231
30-34	658	2,652	2,733	526	1				6,570
35-39	680	2,425	1,794	2,574	858				8,331
40-44	766	2,841	1,934	1,941	3,966	1,691			13,139
45-49	514	1,845	1,494	1,241	1,769	4,286	1,202		12,351
50-54	243	908	793	783	1,005	2,004	2,623	681	9,040
55-59	118	483	332	339	551	996	1,249	1,336	5,404
60-64	55	220	109	128	204	403	430	434	1,983
65-69	27	71	20	16	20	58	46	29	287
70+	6	18	5	1	5	1		3	39
Total	4,817	16,874	9,952	7,549	8,379	9,439	5,550	2,483	65,043

Average Annual Earnings

	Years of Service								
Age	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	Total
<20		1,100							1,100
20-24	19,250	5,361							9,102
25-29	16,113	15,339	26,967						16.877
30-34	14,910	16,057	27,735	30,591	22,787				21,965
35-39	13,598	14,297	28,342	32,401	36,676				25,163
40-44	13,651	14,228	29,750	34,188	38,212	40,275			30,020
45-49	12,348	12,789	29,673	34,902	39,643	42,191	43,642		34,087
50-54	11,180	11,800	28,056	33,124	39,710	43,845	44,003	45,637	37,156
55-59	8,981	8,862	23,313	32,308	38,568	43,496	45,043	46,210	38,231
60-64	5,480	5,813	21,624	29,060	37,895	43,325	44,095	46,485	36,300
65-69	4,064	3,203	21,220	33,355	38,771	44,018	48,873	50,668	29,063
70+	4,983	3,676	15,790	8,297	26,018	72,526		56,726	14,259
Total	14,466	13,552	28,262	33,159	38,544	42,399	44,207	46,165	29,413

TABLE 4A - BASIC
Service Retirements as of June 30, 1992

Membership Distribution

	Years Retired							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50								
50-54		1						1
55-59	81	209	4					294
60-64	119	280	488	2				889
65-69	23	147	660	168				998
70-74	6	30	416	421	95	2		970
75-79		1	55	441	321	70	1	889
80-84		1		46	452	98	53	650
85+				1	91	249	217	558
Total	229	669	1,623	1,079	959	419	271	5,249

Average Annual Benefit

	Years Retired							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50								
50-54		1,487						1,487
55-59	27,399	24,590	16,761					25,258
60-64	24,733	22,825	22,804	5,687				23,030
65-69	22,036	20,600	23,564	13,425				21,385
70-74	29,513	15,690	20,767	16,404	9,603	12,128		17,659
75-79		1,857	19,828	16,856	12,866	5,330	10,773	14,668
80-84		3,724		10,143	13,472	6,138	5,575	11,472
85+				4,289	11,094	9,543	9,828	9,897
Total	25,530	22,476	22,475	15,827	12,660	8,055	9,000	17,602

TABLE 4B - COORDINATED
Service Retirements as of June 30, 1992

Membership Distribution

	Years Retired							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50		1	4					5
50-54	6	8	2					16
55-59	239	621	3	2				865
60-64	583	1,385	707	2				2,677
65-69	199	1,053	1,453	213	1			2,919
70-74	31	194	1,248	659	80			2,212
75-79		13	174	1,014	358	25		1,584
80-84		2	6	82	1,064	117	4	1,275
85+				2	255	707	101	1,065
Total	1,058	3,277	3,597	1,974	1,758	849	105	12,618

Average Annual Benefit

	Years Retired							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50		1,443	783					915
50-54	12,300	14,349	956					11,906
55-59	13,853	14,626	9,213	1,113				14,362
60-64	16,201	14,490	14,725	14,713				14,925
65-69	12,586	11,428	11,537	5,073	12,058			11,098
70-74	13,187	10,193	10,834	9,277	3,179			10,070
75-79		8,459	10,555	9,888	8,681	2,830		9,565
80-84		1,712	2,320	9,615	8,212	3,781	1,537	7,837
85+				1,378	7,107	4,897	3,259	5,264
Total	14,880	13,241	11,837	9,140	7,921	4,682	3,193	10,936

TABLE 5
Disability Retirements as of June 30, 1992

Membership Distribution

	Years Disabled							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50	8	25	9	3				45
50-54	13	18	14	8	1		1	55
55-59	15	53	23	5	3	1		100
60-64	14	31	29	14	1	1		90
65-69		3	1	2	1			7
70-74								
75-79								
80-84								
85+								
Total	50	130	76	32	6	2	1	297

Average Annual Benefit

	Years Disabled							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50	5,953	5,559	5,853	16,260				6,401
50-54	12,568	8,371	9,006	6,230	2,210		4,618	9,033
55-59	16,337	13,045	9,734	9,429	4,782	5,680		12,275
60-64	15,681	14,353	12,100	15,088	15,062	8,455		13,890
65-69		17,104	19,067	11,592	3,386			13,850
70-74								
75-79								
80-84								
85+								
Total	13,512	11,364	10,166	11,881	5,834	7,068	4,618	11,311

TABLE 5A - BASIC
Disability Retirements as of June 30, 1992

Membership Distribution

	Years Disabled							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50								
50-54								
55-59	3	5	2	2				12
60-64	1	4	5	7	1	1		19
65-69		1	1					2
70-74								
75-79								
80-84								
85+								
Total	4	10	8	9	1	1		33

Average Annual Benefit

	Years Disabled							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50								
50-54								
55-59	27,438	28,576	23,913	17,227				25,623
60-64	35,336	27,225	22,992	23,279	15,062	8,455		23,456
65-69		20,576	19,067					19,822
70-74								
75-79								
80-84								
85+								
Total	29,412	27,236	22,732	21,934	15,062	8,455		24,024

TABLE 5B - COORDINATED
Disability Retirements as of June 30, 1992

Membership Distribution

	Years Disabled							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50	8	25	9	3				45
50-54	13	18	14	8	1		1	55
55-59	12	48	21	3	3	1		88
60-64	13	27	24	7				71
65-69		2		2	1			5
70-74								
75-79								
80-84								
85+								
Total	46	120	68	23	5	1	1	264

Average Annual Benefit

	Years Disabled							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50	5,953	5,559	5,853	16,260				6,401
50-54	12,568	8,371	9,006	6,230	2,210		4,618	9,033
55-59	13,562	11,427	8,383	4,230	4,782	5,680		10,455
60-64	14,170	12,446	9,830	6,897				11,330
65-69		15,369		11,592	3,386			11,461
70-74								
75-79								
80-84								
85+								
Total	12,129	10,041	8,688	7,947	3,988	5,680	4,618	9,722

TABLE 6
Survivors as June 30, 1992

Membership Distribution

	Years Since Death							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50	3	5	3	1		2	1	15
50-54	6	18	5	1		1		31
55-59	9	42	20	6	3	1		81
60-64	16	39	74	23	5	4	2	163
65-69	5	41	108	58	8	1	2	223
70-74	1	14	80	90	24	8	4	221
75-79			19	130	54	8	9	220
80-84			1	11	41	4	4	61
85+				2	4	15	12	33
Total	40	159	310	322	139	44	34	1,048

Average Annual Benefit

	Years Since Death							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50	4,634	6,288	5,704	3,724		3,172	1,958	4,965
50-54	13,521	9,805	7,656	14,444		2,968		10,107
55-59	8,847	9,241	13,305	9,503	4,700	7,529		10,031
60-64	10,246	9,624	13,141	11,045	8,461	2,736	2,399	11,189
65-69	11,722	10,183	12,773	11,909	8,198	3,034	2,432	11,748
70-74	6,587	9,816	11,265	11,811	12,139	5,659	2,802	11,113
75-79			8,397	13,464	11,388	5,000	3,510	11,802
80-84			11,627	9,754	8,694	7,276	4,135	8,541
85+				2,168	8,437	6,579	6,495	6,506
Total	10,095	9,600	12,083	12,251	10,205	5,543	4,379	10,908

TABLE 6A - BASIC
Survivors as of June 30, 1992

Membership Distribution

	Years Since Death							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50		1				1	1	3
50-54	1	3	1	1		1		7
55-59		6	10	5	2	1		24
60-64	4	2	26	15	3	2	2	54
65-69		9	32	22	5	1	2	71
70-74		1	17	29	10	6	4	67
75-79			6	39	17	4	9	75
80-84			1	3	11	2	2	19
85+				1		6	7	14
Total	5	22	93	115	48	24	27	334

Average Annual Benefit

	Years Since Death							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50		11,816				4,335	1,958	6,036
50-54	13,806	16,112	15,810	14,444		2,968		13,623
55-59		13,023	18,198	10,689	6,690	7,529		13,936
60-64	12,707	19,257	16,238	12,204	7,678	3,693	2,399	13,515
65-69		17,611	18,174	13,266	9,857	3,034	2,432	15,339
70-74		33,528	16,744	14,740	18,482	6,320	2,802	14,621
75-79			10,912	19,586	14,901	4,262	3,510	15,084
80-84			11,627	8,559	12,160	4,620	4,913	10,007
85+				1,301		6,935	9,195	7,662
Total	12,927	16,765	16,809	15,314	13,700	5,461	4,763	13,997

TABLE 6B - COORDINATED
Survivors as of June 30, 1992

Membership Distribution

	Years Since Death							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50	3	4	3	1		1		12
50-54	5	15	4					24
55-59	9	36	10	1	1			57
60-64	12	37	48	8	2	2		109
65-69	5	32	76	36	3			152
70-74	1	13	63	61	14	2		154
75-79			13	91	37	4		145
80-84				8	30	2	2	42
85+				1	4	9	5	19
Total	35	137	217	207	91	20	7	714

Average Annual Benefit

	Years Since Death							
Age	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
<50	4,634	4,906	5,704	3,724		2,008		4,697
50-54	13,464	8,543	5,617					9,081
55-59	8,847	8,611	8,412	3,574	720			8,386
60-64	9,426	9,104	11,464	8,871	9,635	1,779		10,037
65-69	11,722	8,094	10,499	11,080	5,433			10,071
70-74	6,587	7,992	9,787	10,419	7,607	3,677		9,587
75-79			7,237	10,840	9,774	5,739		10,104
80-84				10,202	7,423	9,932	3,357	7,879
85+				3,035	8,437	6,342	2,715	5,654
Total	9,690	8,449	10,058	10,549	8,361	5,641	2,898	9,463

TABLE 7
Reconciliation of Members
YEAR ENDING JUNE 30, 1992

	Actives	Inactives
A. AS OF JUNE 30, 1991	65,058	18,273
B. ADDITIONS	6,546	4,298
C. DELETIONS		
1. Service Retirement	(1,215)	(173)
2. Death	(69)	(32)
3. Terminated - No Refund	(3,882)	0
4. Terminated - Refund	(894)	(1,142)
5. Returned to Active	0	(1,270)
6. Write-offs	0	(889)
7. Transfer to IRAP	(45)	0
D. DATA ADJUSTMENTS	21	(65)
E. TOTAL ON JUNE 30, 1992	65,520	19,000
Vested	49,641	3,691
Nonvested	15,879	15,309

	RECIPIENTS		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1991			
1. Used in Valuation	16,995	282	969
2. Receiving Formula and Supplemental or Variable Annuities	(118)	0	0
B. ADDITIONS			
1. Service Retirement Conversions	20	0	0
2. Other Retirements	1,388	64	145
C. DELETIONS			
1. Service Retirement Conversions	0	(20)	0
2. Death	(417)	(17)	(10)
3. Annuity Expired	(1)	0	(55)
4. Returned as Active	0	(12)	0
D. DATA ADJUSTMENTS	0	0	(1)
E. TOTAL ON JUNE 30, 1992	17,867	297	1,048

SECTION
IV

FUNDING STATUS

FUNDING STATUS

Changes Since Previous Valuation

The method used to determine normal cost has been changed in the actuarial standards to reflect mid-year timing of contributions.

Tables

The tables which follow present the funding status of the fund including the Actuarial Balance Sheet (Table 8), the development of the Required Contribution Rate (Tables 9 and 11), and the sources of actuarial gains and losses during the year (Table 10). Each table is described in more detail below.

Actuarial Balance Sheet

The actuarial balance sheet provides a comparison of the current and future obligations of the fund to the value of current assets and future expected statutory contributions. If an excess exists, it is shown as a negative unfunded liability on line H. To the extent that a deficiency exists, it is reflected as a positive unfunded liability on line H.

The balance sheet also provides a comparison of Current Benefit Obligations with Current Assets. Current Benefit Obligations are calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). For active members, this measure is based on a portion of members' projected benefits based on past service. Total benefits are valued for inactive members, including augmentation. The amount by which the Current Benefit Obligation exceeds Current Assets is shown as the Current Unfunded Actuarial Liability on line G.

The Current Benefit Obligation is presented below in GASB No. 5 disclosure format. Figures shown are in thousands of dollars.

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	$ 2,800,115
Current Employees:	
Accumulated employee contributions including allocated investment income	$ 1,887,985
Employer-financed vested	$ 2,009,630
Employer-financed nonvested	$ 244,171
Total Pension Benefit Obligation	$ 6,941,901

Unfunded Actuarial Accrued Liability

Table 9 shows the derivation of the Unfunded Actuarial Accrued Liability under the Entry Age Normal Actuarial Cost Method, which is the funding method used by the Fund. Under this method costs are spread as a level percentage of payroll starting when each member enters into the plan. The unfunded liability is amortized to July 1, 2020 as a level percentage of payroll, assuming total payroll increases at the rate of 6.5% per year.

Actuarial Gains and Losses

Changes in the Unfunded Actuarial Accrued Liability during the year due to differences in actual versus assumed experience plan amendments, and changes in actuarial assumptions and methods are shown in Table 10.

This year the plan experienced a net actuarial gain of $305.7 million, which reduced required contribution rates by .70% of payroll. The main sources for this gain were investment earnings on the TRA regular fund in excess of the assumed interest rate (8.5%) and lower salary increases than assumed. The yield on the actuarial value of the TRA regular fund was 15%. Salary increases to members active on both July 1, 1991 and July 1, 1992 averaged 3.4%, compared to 6.5% assumed. Contributing to the net actuarial loss under other items were losses of $6 million due to the return to active status of members in inactive status as of July 1, 1991 and $4.6 million due to increased benefits to inactives who retired during the year.

Determination of Contribution Sufficiency

Table 11 shows a comparison of Statutory and Required contribution rates for the fund. Required Contributions are the sum of the normal cost contribution, the contribution to amortize the Unfunded Actuarial Accrued Liability, and the contribution for expenses. Tables 11A and 11B which follow show the normal cost for Basic and Coordinated members separately.

The Required Normal Cost percent was increased by .67% of payroll due to the change in the method of calculating Normal Cost. However, as illustrated in Table 10, the change decreased the UAAL by $81.5 million, thus lowering the Supplemental Contribution rate by .19% of payroll. Thus, the net impact was to increase the required contribution rate by .48% of payroll.

TABLE 8
Actuarial Balance Sheet
JULY 1, 1992

(Dollars in Thousands)

A. CURRENT ASSETS (TABLE 1, F6)				$ 6,324,733
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions				$ 1,059,491
2. Present Value of Future Normal Costs				2,066,633
3. Total Expected Future Assets				$ 3,126,124
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				$ 9,450,857
D. CURRENT BENEFIT OBLIGATIONS	Nonvested	Vested	Total	
1. Benefit Recipients				
a. Retirement Annuities	$ 0	$ 2,516,502	$ 2,516,502	
b. Disability Benefits	0	46,846	46,846	
c. Surviving Spouse and Child Benefits	0	99,164	99,164	
2. Deferred Retirements with Augmentation	0	112,719	112,719	
3. Former Members without Vested Rights	0	24,884	24,884	
4. Active Members				
a. Retirement Annuities	13,236	3,742,135	3,755,371	
b. Disability Benefits	159,125	0	159,125	
c. Survivors' Benefits	70,199	0	70,199	
d. Deferred Retirements	1,611	128,725	130,336	
e. Refund Liability Due to Death or Withdrawal	0	26,755	26,755	
5. Total Current Benefit Obligations	$244,171	$ 6,697,730	$ 6,941,901	
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				$ 2,682,356
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				$ 9,624,257
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				$ 617,168
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				$ 173,400

TABLE 9

Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate

JULY 1, 1992

(Dollars in Thousands)

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3) = (1) - (2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	$ 6,200,685	$ 1,651,241	$ 4,549,444
b. Disability Benefits	261,043	104,471	156,572
c. Survivors Benefits	113,896	36,231	77,665
d. Deferred Retirements	197,919	145,520	52,399
e. Refunds: Death/Withdrawal	50,599	129,170	(78,571)
f. Total	$ 6,824,142	$ 2,066,633	$ 4,757,509
2. Deferred Retirements with Future Augmentation	$ 112,719		$ 112,719
3. Former Members Without Vested Rights	$ 24,884		$ 24,884
4. Annuitants in MPRIF	$ 2,587,968		$ 2,587,968
5. Recipients not in MPRIF	$ 74,544		$ 74,544
6. Total	$ 9,624,257	$ 2,066,633	$ 7,557,624
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			$ 7,557,624
2. Current Assets (Table 1,F6)			$ 6,324,733
3. UAAL (B1-B2)			$ 1,232,891
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			$ 43,421,767
2. Supplemental Contribution Rate (B3/C1)			2.84%

TABLE 10

Changes in Unfunded Actuarial Accrued Liability (UAAL)

YEAR ENDING JUNE 30, 1992

	(Dollars in Thousands)
A. UAAL AT BEGINNING OF YEAR	$ 1,542,742
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	$ 194,655
2. Contribution	(253,875)
3. Interest on A, B1, and B2	136,586
4. Total (B1 + B2 + B3)	$ 77,366
C. EXPECTED UAAL AT END OF YEAR (A + B4)	$ 1,620,108
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	$ (140,449)
2. Investment Return	(209,518)
3. MPRIF Mortality*	(4,512)
4. Mortality of Other Benefit Recipients	(4,678)
5. Other Items	53,440
6. Total	$ (305,717)
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D6)	$ 1,314,391
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	$ 0
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS AND METHODS	$ (81,500)
H. UAAL AT END OF YEAR (E + F + G)	$ 1,232,891

*As calculated by Commission actuary

TABLE 11
Determination of Contribution Sufficiency
JULY 1, 1992

	(Dollars in Thousands) % of Payroll	$ Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	4.54%	$ 93,579
2. Employer Contributions	8.18%	$ 168,554
3. Total	12.72%	$ 262,133
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.90%	$ 162,750
b. Disability Benefits	.49%	10,139
c. Survivors	.18%	3,607
d. Deferred Retirement Benefits	.66%	13,668
e. Refunds Due to Death or Withdrawal	.62%	12,832
f. Total	9.85%	$ 202,996
2. Supplemental Contribution: Amortization by July 1, 2020 of UAAL of $1,232,891	2.84%	$ 58,496
3. Allowance for Expenses	.43%	$ 8,857
4. Total	13.12%	$ 270,349
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)	(0.40%)	$ (8,216)

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1992 is $2,059,725.

TABLE 11A
Determination of Contribution Sufficiency
BASIC - JULY 1, 1992

	(Dollars in Thousands)	
	% of Payroll	$ Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	8.50%	$ 1,895
2. Employer Contributions	12.14%	$ 2,707
3. Total	20.64%	$ 4,602
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	12.61%	$ 2,812
b. Disability Benefits	.70%	156
c. Survivors	.64%	143
d. Deferred Retirement Benefits	.99%	221
e. Refunds Due to Death or Withdrawal	1.81%	404
f. Total	16.75%	$ 3,736

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1992 is $22,297.

TABLE 11B
Determination of Contribution Sufficiency
COORDINATED - JULY 1, 1992

	(Dollars in Thousands) % of Payroll	$ Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354		
1. Employee Contributions	4.50%	$ 91,684
2. Employer Contributions	8.14%	$ 165,847
3. Total	12.64%	$ 257,531
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.85%	$ 159,938
b. Disability Benefits	.49%	9,983
c. Survivors	.17%	3,464
d. Deferred Retirement Benefits	.66%	13,447
e. Refunds Due to Death or Withdrawal	.61%	12,428
f. Total	9.78%	$ 199,260

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1992 is $2,037,428.

ACTUARIAL ASSUMPTIONS AND METHODS

Statutes and Standards

Actuarial methods, assumptions and techniques are governed by the Minnesota Statutes, and the Standards for Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement. Currently these call for the use of a preretirement interest rate of 8.5%, a postretirement interest rate of 5.0%, and a salary increase assumption of 6.5%.

The actuarial method required to determine contributions, also governed by the Statutes and Standards, is the Entry Age Actuarial Cost Method. Under this method normal costs are determined in a manner which spreads costs as a level percentage of payroll. Unfunded liabilities are amortized to July 1, 2020 as a level percentage of total payroll assuming 6.5% payroll growth.

Summary

A summary of assumptions and methods used in the valuation follows.

TABLE 12
Summary of Actuarial Assumptions and Methods

Interest:

Pre-Retirement: 8.5% per annum

Post-Retirement: 5% per annum

Salary Increases:

Reported salary for prior fiscal year, with new hires annualized, increased 6.5% to current fiscal year and 6.5% annually for each future year.

Mortality:

Pre-Retirement:
- Male - 1971 GAM (Male table) set back 8 years
- Female - 1971 GAM (Male table) set back 8 years

Post-Retirement:
- Male - Same as above
- Female - Same as above

Post-Disability:
- Male - Same as above
- Female - Same as above

Life expectancies on this table are shown in Table 12B.

Retirement Age:

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.

Separation:

First three (3) years of employment:

Age	Separation Rates by Year		
	1	2	3
Less than 35	30%	15%	10%
35 - 44	25%	12.5%	8%
45 - 60	30%	15%	10%

Thereafter: Shown in Table 12A.

Disability:

Shown in Table 12A.

Expenses:

Prior year expenses expressed as percentage of prior year payroll. (0.43% of payroll)

TABLE 12
Summary of Actuarial Assumptions and Methods
(Continued)

Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with 6% interest or the value of their deferred benefits.
Family Composition:	85% of male Members and 65% of female Members are assumed to be married. Female spouses are assumed to be three years younger. Members are assumed to have no children.
Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement interest rate assumption.
Subsidized Joint and Survivor Elections:	Married Members assumed to elect the subsidized joint and survivor form of annuity as follows: Males – 15% elect 50% J&S option; 15% elect 75% J&S option; 35% elect 100% J&S option; Females – 5% elect 50% J&S option; 5% 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.
Asset Valuation Method:	Cost Value plus one-third of Unrealized Gains or Losses.
Payment on the Unfunded Actuarial Accrued Liability:	Level percentage of payroll each year to the statutory amortization date assuming total payroll increases of 6.5% per annum.

TABLE 12A
Probabilities of Separation

Age	Death	Withdrawal	Disability	Retirement
20	.04%	6.00%	.04%	0%
21	.04	6.00	.04	0
22	.04	6.00	.04	0
23	.04	6.00	.05	0
24	.04	6.00	.05	0
25	.05	6.00	.05	0
26	.05	6.00	.05	0
27	.05	6.00	.05	0
28	.05	6.00	.05	0
29	.05	5.80	.05	0
30	.05	5.65	.06	0
31	.06	5.40	.06	0
32	.06	5.20	.06	0
33	.06	5.00	.06	0
34	.07	4.80	.06	0
35	.07	4.40	.06	0
36	.07	3.70	.07	0
37	.08	3.30	.07	0
38	.08	2.80	.08	0
39	.09	2.40	.08	0
40	.09	2.10	.08	0
41	.10	1.95	.09	0
42	.10	1.85	.09	0
43	.11	1.75	.10	0
44	.12	1.60	.10	0
45	.13	1.45	.11	0
46	.14	1.30	.12	0
47	.15	1.15	.13	0
48	.16	1.00	.14	0
49	.18	.85	.16	0
50	.20	.70	.17	0
51	.23	.55	.19	0
52	.26	.40	.22	0
53	.29	.25	.26	0
54	.33	.10	.30	0

TABLE 12A
Probabilities of Separation
(Continued)

Age	Death	Withdrawal	Disability	Retirement
55	.38%	0%	.36%	0%
56	.42	0	.41	0
57	.47	0	.47	0
58	.53	0	.52	0
59	.59	0	.58	0
60	.65	0	.63	0
61	.71	0	.69	0
62	.78	0	.00	100
63	.85	0	.00	0
64	.93	0	.00	0
65	1.00	0	.00	0
66	1.09	0	.00	0
67	1.19	0	.00	0
68	1.31	0	.00	0
69	1.44	0	.00	0
70	1.59	0	.00	0

TABLE 12B
Years of Life Expectancy

Age	Males and Females	Age	Males and Females
50	34.13	80	10.79
51	33.20	81	10.26
52	32.28	82	9.74
53	31.36	83	9.24
54	30.45	84	8.76
55	29.55	85	8.28
56	28.66	86	7.83
57	27.78	87	7.41
58	26.91	88	7.00
59	26.05	89	6.63
60	25.20	90	6.27
61	24.36	91	5.94
62	23.53	92	5.63
63	22.71	93	5.34
64	21.90	94	5.06
65	21.10	95	4.80
66	20.31	96	4.55
67	19.53	97	4.31
68	18.76	98	4.08
69	18.00	99	3.87
70	17.26	100	3.66
71	16.53	101	3.46
72	15.81	102	3.26
73	15.11	103	3.07
74	14.43	104	2.89
75	13.77	105	2.71
76	13.13	106	2.54
77	12.50	107	2.37
78	11.91	108	2.20
79	11.33	109	2.04
		110	1.88

1971 GAM (Male Table) set back 8 years.

SECTION
VI

SUMMARIES OF PLAN PROVISIONS

TABLE 13A
Summary of Plan Provisions (BASIC)

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 with more than 3 years of Allowable Service who was first employed before 7/1/89 is a Member if that person elects coverage under Sec. 354B.
Contributions	Member 8.50% of Salary Employer 12.14% of Salary
Allowable Service	A day of credit is earned if 5 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, and any payments made in lieu of employer paid fringe benefits or expenses.
Average Salary	Average of the 5 highest successive years of Salary. Average Salary must be based on all years of Allowable Service if less than 5 years.

Retirement

RETIREMENT BENEFIT

Normal Retirement Eligibility

First hired before July 1, 1989:

Age 65 and 3 years of Allowable Service. Age 62 with 30 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 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 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and 1 year of Allowable Service.

Early Retirement Eligibility

First hired before July 1, 1989:

Age 55 and 3 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 3 years of Allowable Service.

Amount

First hired before July 1, 1989:

The greater of:

2% of Average Salary for the first 10 years of Allowable Service and 2.5% 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

2.5% 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.

First hired after June 30, 1989:

2.5% of Average Salary for each year of Allowable Service assuming augmentation to the 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.

Form of Payment

Life annuity.

Actuarially equivalent options are:

- 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option is cancelled if Member is pre-deceased by beneficiary)
- 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 1 full month but less than 12 full months as of the previous June 30 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. In each following year, the lump sum payment is adjusted by TRA to provide the same percentage increase as MPRIF.

Disability

DISABILITY BENEFIT

Eligibility	Total and permanent disability before normal retirement age with 3 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 $5 per month for each year under normal retirement age at commencement of disability (maximum of $50 per month). Payments stop at normal retirement age, or earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.
Form of Payment	Same as for retirement.
Benefit Increases	Adjusted by TRA to provide same increase as MPRIF.

RETIREMENT AFTER DISABILITY

Eligibility	Normal retirement age.
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

Eligibility	Active Member with 18 months of Allowable Service or Member receiving a disability benefit.
Amount	50% of Salary paid during 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 a refund of contributions may be elected in lieu of this benefit.

SURVIVING DEPENDENT CHILDREN'S BENEFIT

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

SURVIVING SPOUSE OPTIONAL ANNUITY

Eligibility	Member or former Member who dies before retirement benefits commence, if age 50 with 3 years of Allowable Service or any age with 30 years of Allowable Service. If the Member dies before age 55 with less than 30 years of Allowable Service, benefits commence when Member would have been age 55.
Amount	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if retired.
Benefit Increases	Adjusted by TRA to provide same increase as MPRIF except joint and survivor benefit increases which are paid from MPRIF.

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

DEFERRED BENEFIT

Eligibility	3 years of Allowable Service.
Amount	Benefit computed under law in effect at termination and increased by the following annual percentage: 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.

TABLE 13B
Summary of Plan Provisions (COORDINATED)

Eligibility	A public school, community college, or state university teacher who is covered under 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 or state university teacher first employed after June 30, 1989 is a Member except for purposes of Social Security coverage. No community college or state university teacher first employed before July 1, 1989 is a Member except for purposes of Social Security coverage if that person elects coverage under Sec. 354B.
Contributions	Member 4.50% of Salary Employer 8.14% of Salary
Allowable Service	A day of credit is earned if 5 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, and any payments made in lieu of employer paid fringe benefits or expenses.
Average Salary	Average of the 5 highest successive years of Salary. Average Salary must be based on all years of Allowable Service if less than 5 years.
Retirement	
RETIREMENT BENEFIT	
Normal Retirement Eligibility	First hired before July 1, 1989: Age 65 and 3 years of Allowable Service. Age 62 with 30 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 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 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and 1 year of Allowable Service.

Early Retirement Eligibility

First hired before July 1, 1989:

Age 55 and 3 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 3 years of Allowable Service.

Amount

First hired before July 1, 1989:

The greater of:

1% of Average Salary for the first 10 years of Allowable Service and 1.5% 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

1.5% 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.

First hired after June 30, 1989:

1.5% of Average Salary for each year of Allowable Service assuming augmentation to the 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.

Form of Payment	Life annuity. Actuarially equivalent options are: • 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option is cancelled if Member is pre-deceased by beneficiary) • 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 1 full month but less than 12 months as of the previous June 30 will receive a partial pro rata increase. Members retired under law 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 is adjusted by TRA to provide the same percentage increase as MPRIF.

Disability

DISABILITY BENEFIT

Eligibility	Total and permanent disability before normal retirement age with 3 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 elected. Payments stop at normal retirement age, or earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.

Form of Payment	Same as for retirement.
Benefit Increases	Adjusted by TRA to provide same increase as MPRIF.

RETIREMENT AFTER DISABILITY

Eligibility	Normal retirement age.
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

Eligibility	Member or former Member who dies before retirement benefits commence, if age 50 with 3 years of Allowable Service or any age with 30 years of Allowable Service. If the Member dies before age 55 with less than 30 years of Allowable Service, benefits commence when Member would have been age 55.
Amount	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if retired.
Benefit Increase	From MPRIF.

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 with 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	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	3 years of Allowable Service.
Amount	Benefit computed under law in effect at termination and increased by the following annual percentage: 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.