

Minneapolis Teachers' Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 1991

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December 23, 1991

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

Re: *Minneapolis Teachers' Retirement Fund*

Commission Members:

Pursuant the terms of our actuarial services contract, we have performed an actuarial valuation of the Minneapolis Teachers' Retirement Fund as of July 1, 1991.

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 Minneapolis Teachers' Retirement Fund.

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 of Actuarial Work, adopted by the Commission on September 20, 1989.

Respectfully submitted,

Thomas K. Custis, F.S.A., M.A.A.A.
Consulting Actuary

Lance M. Burma, F.S.A., M.A.A.A.
Actuary

Enclosure

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Minneapolis Teachers' Retirement Fund
Report Highlights
(dollars in thousands)

	July 1, 1990 Valuation	July 1, 1991 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 354A % of Payroll	17.36%	16.96%
2. Required Contributions - Chapter 356 % of Payroll	30.40%	30.55%
3. Sufficiency (Deficiency): (A1-A2)	(13.04%)	(13.59%)
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$ 407,966	\$ 424,677
b. Current Benefit Obligations (Table 8)	\$ 766,108	\$ 779,570
c. Funding Ratio: (a/b)	53.25%	54.48%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$ 407,966	\$ 424,677
b. Actuarial Accrued Liability (Table 9)	\$ 816,647	\$ 826,574
c. Funding Ratio: (a/b)	49.96%	51.38%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$ 612,564	\$ 616,675
b. Current and Expected Future Benefit Obligations	\$ 970,951	\$ 989,755
c. Funding Ratio: (a/b)	63.09%	62.30%

Minneapolis Teachers' Retirement Fund
Report Highlights
(dollars in thousands)

	<u>July 1, 1990</u> Valuation	<u>July 1, 1991</u> Valuation
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	3,252	3,169
b. Projected Annual Earnings	\$ 123,784	\$ 126,805
c. Average Annual Earnings (Actual \$)	\$ 38,064	\$ 40,014
d. Average Age	44.7	45.1
e. Average Service	13.7	14.1
f. Additional Members on Leave of Absence	373	255
2. Others		
a. Service Retirements (Table 4)	2,254	2,337
b. Disability Retirements (Table 6)	40	39
c. Survivors (Table 5)	204	193
d. Deferred Retirements (Table 7)	519	492
e. Terminated Other Non-Vested (Table 7)	134	131
f. Total	<u>3,151</u>	<u>3,192</u>

Minneapolis Teachers' Retirement 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 54.48%. The corresponding ratio for the prior year was 53.25%

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 1991 the ratio is 51.38%, which is an increase from the 1990 value of 49.96%

The *Projected Benefit Funding Ratio* is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 62.30% shows that the current statutory contributions are inadequate.

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 gains 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 F1 to F6. 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.

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 level is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

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

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The July 1, 1991 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$	416,872,000
Current Employees		
Accumulated employee contributions including allocated investment income	\$	108,158,000*
Employer-financed vested		226,798,000
Employer-financed non-vested		27,742,000
Total Pension Benefit Obligation	\$	779,570,000
Net Assets Available for Benefits at Cost	\$	410,811,000
Total Benefit Obligation less Assets	\$	368,759,000
Funded Ratio		52.70%

*Estimated

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 of 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.

The payments will increase 6.5% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

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 an analysis of the major components of the Actuarial Gain or Loss 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 Fund has a contribution deficiency since the Statutory Contribution Rate is 16.96% compared to the Required Contribution Rate of 30.55%.

Changes in Actuarial Assumptions

The actuarial assumptions are the same as those used in the prior valuation.

Changes in Plan Provisions

This valuation reflects no changes in plan provisions since the prior valuation.

TABLE 1

Minneapolis Teachers' Retirement Fund
Accounting Balance Sheet
(dollars in thousands)

July 1, 1991

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$ 9,044	\$ 9,044
2. Investments		
a. Fixed Income	131,132	132,406
b. Equity	247,701	204,830
c. Real Estate	55,308	55,308
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
4. Other	<u>15,970</u>	<u>15,970</u>
B. TOTAL ASSETS	<u>\$ 459,155</u>	<u>\$ 417,558</u>
C. AMOUNTS CURRENTLY PAYABLE	<u>\$ 6,747</u>	<u>\$ 6,747</u>
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$ 237,141	\$ 237,141
2. Employer Reserves	148,389	106,792
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	<u>66,878</u>	<u>66,878</u>
5. Total Assets Available for Benefits	<u>\$ 452,408</u>	<u>\$ 410,811</u>
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	<u>\$ 459,155</u>	<u>\$ 417,558</u>
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$ 410,811
2. Market Value (D5)	\$ 452,408	
3. Cost Value (D5)	<u>410,811</u>	
4. Market Over Cost: (F2-F3)	<u>\$ 41,597</u>	
5. 1/3 of Market Over Cost: (F4)/3		<u>13,866</u>
6. Actuarial Value of Assets (F1+F5)		<u>\$ 424,677</u>

TABLE 2

Minneapolis Teachers' Retirement Fund
Change In Assets Available For Benefits
(dollars in thousands)

Year Ending June 30, 1991

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$ 438,247	\$ 392,825
B. OPERATING REVENUES		
1. Member Contributions	\$ 9,337	\$ 9,337
2. Employer Contributions	12,358	12,358
3. Investment Income	22,457	22,457
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	8,282	8,282
6. Other	0	0
7. Net Change in Unrealized Gain (Loss)	(3,825)	0
8. Total Revenue	<u>\$ 48,609</u>	<u>\$ 52,434</u>
C. OPERATING EXPENSES		
1. Service Retirements	\$ 36,905	\$ 36,905
2. Disability Benefits	641	641
3. Survivor Benefits	731	731
4. Refunds	414	414
5. Expenses	2,780	2,780
6. Other	3,451	3,451
7. Total Disbursements	<u>\$ 44,922</u>	<u>\$ 44,922</u>
D. OTHER CHANGES IN RESERVES	10,474	10,474
E. ASSETS AVAILABLE AT END OF PERIOD	<u>\$ 452,408</u>	<u>\$ 410,811</u>

Minneapolis Teachers' Retirement Fund
Active Members as of June 30, 1991

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	1	5							6
25-29	23	95	25						143
30-34	9	136	134	14					293
35-39	8	141	149	62	18				378
40-44	4	125	102	109	140	148	1		629
45-49	2	83	79	52	107	322	80		725
50-54		44	42	48	56	172	133	25	520
55-59		20	12	27	40	87	77	50	313
60-64	1	6	10	9	15	35	33	26	135
65+		4	1	2	3	5	3	9	27
ALL	48	659	554	323	379	769	327	110	3,169

AVERAGE ANNUAL EARNINGS

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	18,967	14,480							15,228
25-29	19,022	22,254	24,664						22,156
30-34	13,749	25,470	28,717	30,667					26,843
35-39	12,950	26,138	32,040	35,699	40,179				30,422
40-44	2,506	29,220	37,678	37,570	42,202	42,455	32,879		37,878
45-49	7,897	29,743	36,626	44,469	38,958	45,452	44,833		41,491
50-54		30,970	36,721	42,473	45,264	44,442	48,111	46,713	43,633
55-59		26,907	34,484	35,624	39,104	42,876	45,305	49,648	42,106
60-64	5,148	25,241	32,125	39,981	39,237	43,773	48,061	43,212	41,984
65+		27,453	4,254	7,124	47,246	44,425	35,410	44,529	37,006
ALL	14,891	26,736	32,955	38,467	41,238	44,275	46,480	47,041	37,572

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

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>TOTAL</u>
715	17,619	18,257	12,425	15,629	34,047	15,199	5,174	119,065

TABLE 4

Minneapolis Teachers' Retirement Fund
Service Retirements as of June 30, 1991

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	1		1					2
50-54	16	24						40
55-59	32	98	22	1				153
60-64	30	200	104	25				359
65-69	15	119	194	89	10	1		428
70-74		21	116	183	33	3		356
75-79		2	28	141	110	11	3	295
80-84				10	180	91	12	293
85+					62	156	193	411
ALL	94	464	465	449	395	262	208	2,337

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	28,303		21,720					25,012
50-54	18,051	11,248						13,969
55-59	25,126	23,869	8,037	7,615				21,749
60-64	20,826	21,049	22,511	14,430				20,993
65-69	19,896	18,882	18,748	19,277	3,819	7,269		18,560
70-74		20,189	15,487	16,813	10,845	10,642		15,975
75-79		9,923	21,555	13,852	11,570	9,145	4,961	13,439
80-84				8,114	10,858	10,186	10,605	10,545
85+					13,361	10,925	10,237	10,969
ALL	21,749	20,495	18,445	16,025	11,270	10,576	10,182	15,689

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS RETIRED

<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>TOTAL</u>
2,044	9,510	8,577	7,195	4,451	2,771	2,118	36,666

TABLE 5

**Minneapolis Teachers' Retirement Fund
Survivors as of June 30, 1991**

<u>AGE</u>	<u>YEARS SINCE DEATH</u>							<u>TOTAL</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	1		1	3			10
50-54		1						1
55-59		5	6	3	2			16
60-64	2	6	8	7		1		24
65-69	1	4	12	19		1		37
70-74			7	12	2		1	22
75-79	1	1	1	17	10	5	1	36
80-84				2	8	10	2	22
85+	2		1			7	15	25
ALL	11	18	35	61	25	24	19	193

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	2,465	3,569		5,952	4,485			3,530
50-54		9,041						9,041
55-59		20,071	8,814	15,989	10,876			13,935
60-64	17,581	14,149	21,787	11,169		7,269		15,825
65-69	20,014	9,417	6,616	15,209		5,538		11,664
70-74			7,947	14,158	13,898		6,230	11,798
75-79	5,440	13,419	13,257	7,859	12,363	10,688	8,307	9,753
80-84				15,376	13,500	11,426	7,442	12,177
85+	16,371		6,290			12,146	9,220	10,494
ALL	9,608	13,830	10,907	12,382	11,785	11,064	8,828	11,501

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS SINCE DEATH

<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>TOTAL</u>
106	249	382	755	295	266	168	2,220

TABLE 6

Minneapolis Teachers' Retirement Fund
Disability Retirements as of June 30, 1991

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>TOTAL</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			2					2
50-54		1						1
55-59		1	2	1				4
60-64		1		1		1		3
65-69				5	1			6
70-74				2	4	3	1	10
75-79					6	2	2	10
80-84						2		2
85+							1	1
ALL	0	3	4	9	11	8	4	39

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			16,274					16,274
50-54		18,330						18,330
55-59		9,428	24,149	8,264				16,497
60-64		15,592		19,206		8,805		14,534
64-69				17,503	14,123			16,940
70-74				12,444	10,278	12,179	5,296	10,783
75-79					9,038	11,122	8,556	9,358
80-84						7,413		7,413
85+							4,153	4,153
ALL	0	14,450	20,211	15,541	9,951	10,301	6,640	12,372

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS DISABLED

<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>TOTAL</u>
0	43	81	140	109	82	27	482

Minneapolis Teachers' Retirement Fund
Reconciliation of Members

	Actives*	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1990	3,625	519	134
B. ADDITIONS	347	7	370
C. DELETIONS			
1. Service Retirement	(62)	(18)	0
2. Disability	(1)	0	0
3. Death - Survivor	(6)	0	0
4. Death - Other	0	0	0
5. Terminated - Deferred	(7)	0	0
6. Terminated - Refund	(102)	0	(373)
7. Terminated - Other Non-Vested	(370)	0	0
8. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	0	(16)	0
1. Vested	2,582		
2. Non-Vested	842		
E. TOTAL ON JUNE 30, 1991	3,424	492	131

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1990	2,254	40	204
B. ADDITIONS	80	1	10
C. DELETIONS			
1. Service Retirement	0	0	(1)
2. Death	(63)	0	(19)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	66	(2)	(1)
E. TOTAL ON JUNE 30, 1991	2,337	39	193

* Includes members on leave of absence.

TABLE 8

Minneapolis Teachers' Retirement Fund
Actuarial Balance Sheet
(dollars in thousands)

July 1, 1991

A.	CURRENT ASSETS (TABLE 1, F6)			\$	424,677
B.	EXPECTED FUTURE ASSETS				
1.	Present Value of Expected Future Statutory Supplemental Contributions				28,817
2.	Present Value of Future Normal Costs				163,181
3.	Total Expected Future Assets				191,998
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			\$	616,675
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested		Total
1.	Benefit Recipients				
a.	Retirement Annuities	\$	\$ 384,845	\$	384,845
b.	Disability Benefits		5,419		5,419
c.	Surviving Spouse and Child Benefits		16,186		16,186
2.	Deferred Retirements With Future Augmentation		10,029		10,029
3.	Former Members Without Vested Rights		393		393
4.	Active Members				
a.	Retirement Annuities	1,666	316,080		317,746
b.	Disability Benefits	18,899	0		18,899
c.	Survivors' Benefits	7,036	0		7,036
d.	Deferred Retirements	141	17,052		17,193
e.	Refund Liability Due to Death or Withdrawal	0	1,824		1,824
5.	Total Current Benefit Obligations	\$ 27,742	\$ 751,828	\$	779,570
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			\$	210,185
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			\$	989,755
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY: (D5-A)			\$	354,893
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY: (F-C)			\$	373,080

Minneapolis Teachers' Retirement Fund
Determination of Unfunded Actuarial Accrued Liability (UAAL) and
Supplemental Contribution Rate
(dollars in thousands)

July 1, 1991			
	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
	(1)	(2)	(3)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$ 504,884	\$ 124,855	\$ 380,029
b. Disability Benefits	29,996	12,761	17,235
c. Survivors' Benefits	10,630	3,637	6,993
d. Deferred Retirements	24,289	13,268	11,021
e. Refunds Due to Death or Withdrawal	3,084	8,660	(5,576)
f. Total	<u>\$ 572,883</u>	<u>\$ 163,181</u>	<u>\$ 409,702</u>
2. Deferred Retirements With Future Augmentation	10,029		10,029
3. Former Members Without Vested Rights	393		393
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	406,450		406,450
6. Total	<u><u>\$ 989,755</u></u>	<u><u>\$ 163,181</u></u>	<u><u>\$ 826,574</u></u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL: (A6)			\$ 826,574
2. Current Assets (Table 1, F6)			424,677
3. UAAL: (B1-B2)			<u><u>\$ 401,897</u></u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			\$ 2,744,462
2. Supplemental Contribution Rate: (B3/C1)			14.64%

Minneapolis Teachers' Retirement Fund
Changes in Unfunded Actuarial Accrued Liability (UAAL)
(dollars in thousands)

Year Ending June 30, 1991

A.	UAAL AT BEGINNING OF YEAR	\$ 408,681
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1.	Normal Cost and Expenses	\$ 19,339
2.	Contribution	(21,695)
3.	Interest on A, B1 and B2	35,460
4.	Total: (B1+B2+B3)	<u>\$ 33,104</u>
C.	EXPECTED UAAL AT END OF YEAR: (A+B4)	\$ 441,785
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1.	Salary Increases	\$ (16,234)
2.	Investment Return	(6,248)
3.	MPRIF Mortality	0
4.	Mortality of Other Benefit Recipients	4,106
5.	Other Items	(21,512)
6.	Total	<u>\$ (39,888)</u>
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS: (C+D5)	\$ 401,897
F.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR: (E+F+G)	<u><u>\$ 401,897</u></u>

Minneapolis Teachers' Retirement Fund
Determination of Contribution Sufficiency
(dollars in thousands)

July 1, 1991

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	6.98%	\$ 8,850
2. Employer Contributions	9.98%	12,660
3. Total	<u>16.96%</u>	<u>\$ 21,510</u>
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	10.49%	\$ 13,307
b. Disability Benefits	1.05%	1,333
c. Survivors' Benefits	0.32%	406
d. Deferred Retirement Benefits	1.05%	1,331
e. Refunds Due to Death or Withdrawal	0.67%	847
f. Total	<u>13.58%</u>	<u>\$ 17,224</u>
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	14.64%	\$ 18,564
3. Allowance for Expenses	2.33%	\$ 2,955
4. Total	<u>30.55%</u>	<u>\$ 38,743</u>
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY): (A3-B4)	<u>(13.59%)</u>	<u>\$ (17,233)</u>

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1991 is \$126,805.

Minneapolis Teachers' Retirement Fund
Summary of Actuarial Assumptions and Methods

<i>Interest:</i>	Pre-Retirement: 8.50% per annum Post-Retirement: 8.50% per annum
<i>Salary Increases:</i>	Total reported pay for prior fiscal year increased 6.50% to current fiscal year and 6.50% annually for each future year.
<i>Mortality:</i>	<p>Pre-Retirement:</p> <p style="padding-left: 40px;">Male - 1971 Group Annuity Mortality Table male rates set back 8 years.</p> <p style="padding-left: 40px;">Female - 1971 Group Annuity Mortality Table male rates set back 8 years.</p> <p>Post-Retirement:</p> <p style="padding-left: 40px;">Male - same as above.</p> <p style="padding-left: 40px;">Female - same as above.</p> <p>Post Disability:</p> <p style="padding-left: 40px;">Male - same as above.</p> <p style="padding-left: 40px;">Female - same as above.</p>
<i>Retirement Age:</i>	Basic Members are assumed to retire at age 60. Coordinated Members are assumed to retire at age 63. If over the assumed retirement age, one year from valuation date. In addition, 30% of Coordinated Members are assumed to retire each year that they are eligible for the Rule of 90.
<i>Separation:</i>	Graded rates shown in the rate table.
<i>Disability:</i>	Graded rates shown in the rate table.
<i>Administrative and Investment Expenses:</i>	Prior year expenses expressed as a percentage of prior year payroll.
<i>Return of Contributions:</i>	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.
<i>Family Composition:</i>	80% of male Members and 60% of female Members are assumed to be married. Female is three years younger than male.
<i>Social Security:</i>	N/A
<i>Benefit Increases</i>	

After Retirement:

2.0% per annum

Special Consideration:

Discretionary post retirement benefit increase is accounted for by increasing the reserve value for all service retirements, disability retirements and survivors eligible for the increase by an amount that equals the excess of the three year time weighted total rate of return over the assumed interest rate of 8%. This benefit increase is accounted for by using a post-retirement interest rate of 8.0%.

Married Coordinated Members are assumed to elect subsidized joint and survivor forms of annuity as follows:

Males -	15% elect 50% J&S option
	50% elect 100% J&S option
Females -	10% elect 50% 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:*

A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.50% per annum.

TABLE 12
(cont)

Minneapolis Teachers' Retirement 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>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	4	4	1,200	1,200	3	4	0	0
21	4	4	1,150	1,150	3	4	0	0
22	4	4	1,100	1,100	3	4	0	0
23	4	4	1,050	1,050	3	5	0	0
24	4	4	1,000	1,000	3	5	0	0
25	5	5	950	950	3	5	0	0
26	5	5	900	900	4	5	0	0
27	5	5	850	850	4	5	0	0
28	5	5	800	800	4	6	0	0
29	5	5	750	750	4	6	0	0
30	5	5	700	700	4	6	0	0
31	6	6	650	650	4	6	0	0
32	6	6	600	600	4	7	0	0
33	6	6	550	550	5	7	0	0
34	7	7	500	500	5	8	0	0
35	7	7	450	450	5	8	0	0
36	7	7	400	400	6	8	0	0
37	8	8	350	350	6	9	0	0
38	8	8	300	300	6	9	0	0
39	9	9	250	250	6	10	0	0
40	9	9	200	200	7	10	0	0
41	10	10	190	190	7	11	0	0
42	10	10	180	180	8	12	0	0
43	11	11	170	170	8	13	0	0
44	12	12	160	160	9	14	0	0
45	13	13	150	150	10	15	0	0
46	14	14	140	140	11	16	0	0
47	15	15	130	130	12	18	0	0
48	16	16	120	120	14	20	0	0
49	18	18	110	110	16	23	0	0
50	20	20	100	100	18	26	0	0
51	23	23	90	90	20	29	0	0
52	26	26	80	80	23	33	0	0
53	29	29	70	70	26	37	0	0
54	33	33	60	60	30	42	0	0

TABLE 12
(cont)

Minneapolis Teachers' Retirement 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>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
55	38	38	50	50	36	49	0	0
56	42	42	40	40	42	58	0	0
57	47	47	30	30	50	68	0	0
58	53	53	20	20	59	80	0	0
59	59	59	10	10	69	94	0	0
60	65	65	0	0	90	121	0	0
61	71	71	0	0	116	154	0	0
62	78	78	0	0	146	193	0	0
63	85	85	0	0	0	0	10,000	10,000
64	93	93	0	0	0	0	0	0
65	100	100	0	0	0	0	0	0
66	109	109	0	0	0	0	0	0
67	119	119	0	0	0	0	0	0
68	131	131	0	0	0	0	0	0
69	144	144	0	0	0	0	0	0
70	159	159	0	0	0	0	0	0

TABLE 3A

BASIC

Minneapolis Teachers' Retirement Fund
Active Members as of June 30, 1991

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25									0
25-29									0
30-34									0
35-39			3	20	17				40
40-44			4	34	135	148			321
45-49			5	27	86	322	80		520
50-54			3	16	53	159	133	25	389
55-59				18	40	86	73	50	267
60-64				5	14	34	33	21	107
65+				1	3	5	2	8	19
ALL	0	0	15	121	348	754	321	104	1,663

AVERAGE ANNUAL EARNINGS

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25									0
25-29									0
30-34									0
35-39			31,036	39,503	40,506				39,295
40-44			33,398	38,798	42,160	42,455			41,831
45-49			42,926	46,349	42,011	45,452	44,833		44,810
50-54			39,833	42,064	45,429	45,142	48,111	46,713	46,130
55-59				37,884	39,104	43,135	46,775	49,648	44,392
60-64				36,800	39,624	43,809	48,061	47,526	44,975
65+				3,292	47,246	44,425	52,194	49,193	45,531
ALL	0	0	37,389	40,519	42,131	44,453	47,011	48,479	44,363

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

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>TOTAL</u>
0	0	561	4,903	14,662	33,517	15,090	5,042	73,775

Minneapolis Teachers' Retirement Fund
Determination of Contribution Sufficiency
(dollars in thousands)

July 1, 1991

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	8.50%	\$ 6,679
2. Employer Contributions	13.35%	10,489
3. Total	<u>21.85%</u>	<u>\$ 17,168</u>
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	12.35%	\$ 9,704
b. Disability Benefits	1.22%	962
c. Survivors' Benefits	0.41%	320
d. Deferred Retirement Benefits	1.39%	1,091
e. Refunds Due to Death or Withdrawal	0.92%	722
f. Total	<u>16.29%</u>	<u>\$ 12,799</u>

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1991 is \$78,571.

Minneapolis Teachers' Retirement Fund
Summary of Plan Provisions

GENERAL

<i>Eligibility:</i>	A teacher who is employed by the Board of Education of Special School District No. 1 and who is not covered by the Social Security Act. Certain part-time licensed employees are covered as well as employees of the Minneapolis Teachers Retirement Fund (unless they belong to the Minneapolis Employees Retirement Fund).
<i>Contributions:</i>	Member: 8.50% of Salary. Employer: 6.50% of Salary to the Retirement Fund (city contributions). 6.85% of Salary to the Contingent Fund.
<i>Teaching Service:</i>	A year is earned during a calendar year if the Member is employed in a covered position and employee contributions are deducted. May also include certain part-time service and military service.
<i>Compensation:</i>	All compensation received for service as a teacher.
<i>Average Annual Compensation:</i>	Average of the 5 highest consecutive years of compensation.

RETIREMENT

Normal Retirement Benefit:

<i>Eligibility:</i>	Age 60. Any age with 30 years of Teaching Service.
<i>Amount:</i>	2.50% of Average Annual Compensation for each year of Teaching Service.

Early Retirement Benefit:

<i>Eligibility:</i>	Age 55 with less than 30 years of Teaching Service.
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Amount:

The greater of:

2.25% of Average Annual Compensation for each year of Teaching Service with reduction of 0.25% for each month the Member is under age first eligible for a normal retirement benefit.

or

2.50% of Average Annual Compensation for each year of Teaching Service assuming augmentation to the age first eligible for a normal retirement benefit at 3.00% per year and actuarial reduction for each month the Member is under the age first eligible for a normal retirement benefit.

An alternative benefit is available to Members who are at least age 50 and have 7 years of Teaching Service. The benefit is based on the accumulation of the 6.5% "city deposits" to the Retirement Fund. Other benefits are also provided under this alternative depending on the Member's age and Teaching Service.

Form of Payment:

Life annuity.

Actuarially equivalent options are:

3 or 15 year certain and life
50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option is canceled Member is pre-deceased by beneficiary).

Benefit Increases:

Benefits are increased 2.0% annually beginning on the January 1 or July 1 if the Member has been receiving benefits for at least 12 months. Beneficiaries are entitled to the same increase the Member would have received.

In addition, if the time weighted rate of return over the last 3 years exceeds 8%, the Board of Trustees may increase benefits on January 1 by all or a portion of the excess.

Members retired under laws in effect before May 1, 1974 and before any adjustment under Laws 1987, Chapter 372, receive an additional lump sum payment each year. In 1989, this lump sum payment is the greater of \$25 times each full year of Teaching 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 will increase by the same increase that is applied to regular annuities.

DISABILITY

Disability Benefit:

Eligibility:

Total and permanent disability with 3 years of Teaching Service.

Amount:

An annuity based on the continued accumulation of Member and city contributions at the current rate for a period of 15 years (but not beyond age 65) plus an additional benefit equal to the smaller of 100% of the annuity provided by city contributions only or \$150 per month. A Member with 20 years of Teaching Service also receives an additional \$7.50 per month.

Payments stop if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.

Form of Payment:

Same as for retirement.

Benefit Increases:

Same as for retirement.

DEATH

A choice of A, B, or C.

Benefit A:

Eligibility:

Death before retirement.

Amount:

The accumulation of Member and city contributions plus 5% interest if death occurred before May 16, 1989, or 6% interest if death occurred on or after May 16, 1989. Paid as a life annuity, 15 year certain and life, or lump sum. If an annuity is chosen the beneficiary also receives additional benefits.

Benefit B:

Eligibility:

An active Member with 7 years of Teaching Service. A former Member age 60 with 7 years of Teaching Service who dies before retirement or disability benefits begin.

Amount: The actuarial equivalent of any benefits the Member could have received if he had resigned on the date of death. Paid to the beneficiary in the form of a life annuity or a 15 year certain and life annuity.

Benefit C:

Eligibility: An active Member who dies and leaves surviving children.

Amount: A monthly benefit of \$248.30 to the surviving widow while caring for a child and an additional \$248.30 per month for each surviving dependent child. The maximum family benefit is \$579.30 per month. These benefits may be increased by the Board of Trustees.

Benefit Increases: Same as retirement.

TERMINATION

Deferred Annuity:

Eligibility: 7 years of Teaching Service.

Amount: Benefit computed under law in effect at termination and increased by the following annual percentage:

3.00% until January 1 of the year following the attainment of 55, and

5.00% thereafter until the annuity begins.

In addition, the interest earned on the Member and city contributions between termination and age 60 can be applied to provide an additional annuity.

Refund of Contributions:

Eligibility: Termination of teaching service.

Benefits to the widow cease upon death or when no longer caring for an eligible child. Benefits for dependent children cease upon marriage or age 18 (age 22 if a full time student).

Amount: Member's contributions with 5.00% interest if termination occurred before May 16, 1989 and 6.00% interest if termination occurred after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

TABLE 3B

COORDINATED

Minneapolis Teachers' Retirement Fund
Active Members as of June 30, 1991

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	1	5							6
25-29	23	95	25						143
30-34	9	136	134	14					293
35-39	8	141	146	42	1				338
40-44	4	125	98	75	5		1		308
45-49	2	83	74	25	21				205
50-54		44	39	32	3	13			131
55-59		20	12	9		1	4		46
60-64	1	6	10	4	1	1		5	28
65+		4	1	1			1	1	8
ALL	48	659	539	202	31	15	6	6	1,506

AVERAGE ANNUAL EARNINGS

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	18,967	14,480							15,228
25-29	19,022	22,254	24,664						22,156
30-34	13,749	25,470	28,717	30,667					26,843
35-39	12,950	26,138	32,061	33,887	34,620				29,372
40-44	2,506	29,220	37,853	37,014	43,333		32,879		33,759
45-49	7,897	29,743	36,200	42,439	26,453				33,072
50-54		30,970	36,482	42,677	42,337	35,877			36,218
55-59		26,907	34,484	31,103		20,625	18,480		28,835
60-64	5,148	25,241	32,125	43,958	33,814	42,558		25,093	30,554
65+		27,453	4,254	10,955			1,841	7,215	16,760
ALL	14,891	26,736	32,831	37,238	31,214	35,305	18,107	22,113	30,073

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

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>TOTAL</u>
714	17,619	17,696	7,522	968	529	109	133	45,290

Minneapolis Teachers' Retirement Fund
Determination of Contribution Sufficiency
(dollars in thousands)

July 1, 1991

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	4.50%	\$ 2,171
2. Employer Contributions	4.50%	2,171
3. Total	9.00%	\$ 4,342
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.46%	\$ 3,603
b. Disability Benefits	0.77%	371
c. Survivors' Benefits	0.18%	86
d. Deferred Retirement Benefits	0.50%	240
e. Refunds Due to Death or Withdrawal	0.26%	125
f. Total	9.17%	\$ 4,425

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1991 is \$48,234.

**Minneapolis Teachers' Retirement Fund
Summary of Plan Provisions**

GENERAL

<i>Eligibility:</i>	A teacher who is employed by the Board of Education of Special School District No. 1 and who is covered by the Social Security Act. Certain part-time licensed employees are covered as well as employees of the Minneapolis Teachers Retirement Fund (unless they belong to the Minneapolis Employees Retirement Fund).
<i>Contributions:</i>	Member: 4.50% of Salary. Employer: 4.50% of Salary.
<i>Allowable Service:</i>	A year is earned during a school year if the Member is employed in a covered position and employee contributions are deducted. May also include certain part-time service, extended leaves of absence, sabbatical leaves, and military service.
<i>Salary:</i>	Total compensation. Excludes lump sum payments for unused vacation leave or unused sick leave at separation.
<i>Average Salary:</i>	Average of the 5 highest successive years of Salary. Average Salary is based on all Allowable Service is less than 5 years.

RETIREMENT***Normal Retirement Benefit:***

<i>Eligibility:</i>	
First hired before July 1, 1989:	Age 65 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.
First hired after July 1, 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.
<i>Amount:</i>	1.50% of Average Salary for each year of Allowable Service.

Early Retirement Benefit:

Eligibility:

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.

Amount:

**First hired before
July 1, 1989:**

The greater of:

1.00% of Average Salary for each of the first 10 years of Allowable Service plus 1.50% of Average Salary for each subsequent year of Allowable Service with reduction of 0.25% for each month the Member is under age 65 (age 62 if 30 years of Allowable Service). No reduction if age plus years of Allowable Service totals 90.

or

1.50% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65.

**First hired after
July 1, 1989:**

1.50% of Average Salary for each year of Allowable Service assuming augmentation to the age eligible for full Social Security retirement benefits at 3.00% per year and actuarial reduction for each month the Member is under the Social Security retirement age.

Form of Payment:

Life annuity. Actuarial equivalent options are:

Guaranteed refund

3 or 15 year certain and life

50%, 75%, or 100% joint and survivor with bounce back feature without additional reduction (option is canceled if Member is pre-deceased by beneficiary).

Benefit Increases:

Benefits are increased 2.0% annually beginning on the January 1 or July 1 if the Member has been receiving benefits for at least 12 months. Beneficiaries are entitled to the increase the Member would have received.

In addition, if the time weighted rate of return over the last 3 years exceeds 8%, the Board of Trustees may increase benefits on January 1 by all or a portion of the excess.

TABLE 13B
(cont)
COORDINATED

Members retired under law in effect before May 1, 1974 and before any adjustment under Laws 1987, Chapter 372, receive an additional lump sum payment each year. In 1989, this lump sum payment is \$25 times each full year of Allowable Service. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities.

DISABILITY

Disability Benefit:

Eligibility:

Total and permanent disability before the normal retirement age with 3 years of Allowable Service. Also, at least 2 of the years of Allowable Service must have been uninterrupted.

Amount:

Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before the normal retirement age. Benefit is reduced by Workers' Compensation.

Payments are recomputed as a retirement at the normal retirement age. Payments stop if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.

Form of Payment:

Same as for retirement.

Benefit Increases:

Same as for retirement.

Retirement After Disability:

Eligibility:

Normal retirement age with continued disability.

Amount:

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

Benefit Increases:

Same as for retirement.

DEATH

Surviving Spouse Annuity:

Eligibility: Member who dies before retirement benefits commence, if age 50 with 3 years of Allowable Service. Benefits may commence when the Member would have been qualified for a retirement benefit (earlier of age 55 or age when Member would have had 30 years of Allowable Service).

Amount: Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated.

Benefit Increases: Same as for retirement.

Refund of Contributions:

Eligibility: Member or former Member dies before receiving any retirement benefits and survivor's benefits are not payable.

Amount: Member's contributions with 5.00% interest if death occurred before May 16, 1989 and 6.00% interest if death occurred after May 16, 1989.

TERMINATION

Deferred Annuity:

Eligibility: 3 years of Allowable Service.

Amount: Benefit computed under law in effect at termination and increased by the following annual percentage:

3.00% until January 1 of the year following the attainment of 55, and

5.00% thereafter until the annuity begins.

Amount is payable as a normal or early retirement benefit.

Refund of Contributions:

Eligibility: Termination of teaching service.

Amount: Member's contributions with 5.00% interest if termination occurred before May 16, 1989 and 6.00% interest if termination occurred after May 16, 1989. A deferred annuity may be elected in lieu of a refund.