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**Duluth Teachers' Retirement Fund  
ACTUARIAL VALUATION REPORT**

**July 1, 1994**



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Legislative Commission on  
Pensions and Retirement  
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### RE: Duluth Teachers' Retirement Fund

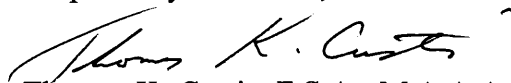
#### Commission Members:

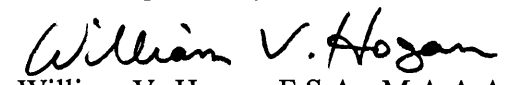
Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1994.

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 - Duluth Teachers' Retirement Fund 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 on July 8, 1992.

Respectfully submitted,

  
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# **Duluth Teachers' Retirement Fund**

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## Duluth Teachers' Retirement Fund

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# Duluth Teachers' Retirement Fund

## Report Highlights (dollars in thousands)

	07/01/93 Valuation	07/01/94 Valuation
<b>A. CONTRIBUTIONS (Table 11)</b>		
1. Statutory Contributions - Chapter 353 % of Payroll	10.29%	10.29%
2. Required Contributions - Chapter 356 % of Payroll	10.21%	10.36%
3. Sufficiency (Deficiency): (A.1. - A.2.)	0.08%	-0.07%
<b>B. FUNDING RATIOS</b>		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$130,857	\$133,631
b. Current Benefit Obligations (Table 8)	\$124,581	\$129,036
c. Funding Ratio: (a/b)	105.04%	103.56%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$130,857	\$133,631
b. Actuarial Accrued Liability (Table 9)	\$132,700	\$137,042
c. Funding Ratio: (a/b)	98.61%	97.51%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$172,538	\$178,307
b. Current and Expected Future Benefit Obligations	\$171,875	\$178,914
c. Funding Ratio: (a/b)	100.39%	99.66%
<b>C. PLAN PARTICIPANTS</b>		
1. Active Members		
a. Number (Table 3)	1,453	1,484
b. Projected Annual Earnings	\$42,160	\$45,415
c. Average Annual Earnings (Actual \$)	\$29,016	\$30,603
d. Average Age	43.5	43.9
e. Average Service	10.1	10.4
2. Others		
a. Service Retirements (Table 4)	770	774
b. Disability Retirements (Table 5)	8	8
c. Survivors (Table 6)	44	50
d. Deferred Retirements (Table 7)	94	124
e. Terminated Other Non-vested (Table 7)	554	559
f. Total	1,470	1,515

## **Duluth 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 103.56%. The corresponding ratio for the prior year was 105.04%.
- ° 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 1994 the ratio is 97.51%, which is a decrease from the 1993 value of 98.61%.
- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 99.66% 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 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 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.

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. 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, 1994 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	\$58,933,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$27,366,000
Employer-financed vested	35,103,000
Employer-financed nonvested	<u>7,634,000</u>
Total Pension Benefit Obligation	\$129,036,000
Net Assets Available for Benefits at Cost	\$132,997,000
Total Benefit Obligation less Assets	(\$3,961,000)
Funded Ratio	103.07%

### ***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.

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 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 deficiency since the Statutory Contribution Rate is 10.29% compared to the Required Contribution Rate of 10.36%.



***Changes in Actuarial Assumptions***

There were no changes in actuarial assumptions since the last valuation.

***Changes in Plan Provisions***

There were no changes in plan provisions since the last valuation which impacted funding costs.

TABLE 1

## Duluth Teachers' Retirement Fund

**Accounting Balance Sheet***(dollars in thousands)*

JULY 1, 1994

	Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-term Securities	\$16,903	\$16,903
2. Investments		
a. Fixed Income	55,481	56,474
b. Equity	69,328	66,429
c. Real Estate	2,030	2,030
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
4. Other	17,669	17,669
B. TOTAL ASSETS	<u>\$161,411</u>	<u>\$159,505</u>
C. AMOUNTS CURRENTLY PAYABLE	\$26,508	\$26,508
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$18,268	\$18,268
2. Employer Reserves	116,635	114,729
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	0	0
5. Total Assets Available for Benefits	<u>\$134,903</u>	<u>\$132,997</u>
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	<u>\$161,411</u>	<u>\$159,505</u>
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$132,997
2. Market Value (D5)	\$134,903	
3. Cost Value (D5)	132,997	
4. Market Over Cost: (F2-F3)	\$1,906	
5. 1/3 of Market Over Cost: (F4)/3		635
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		<u>\$133,632</u>

TABLE 2

## Duluth Teachers' Retirement Fund

**Change In Assets Available For Benefits**  
*(dollars in thousands)*

YEAR ENDING JUNE 30, 1994

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$136,173	\$128,199
B. OPERATING REVENUES		
1. Member Contributions	\$2,230	\$2,230
2. Employer Contributions	2,496	2,496
3. Investment Income	4,586	4,586
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	4,378	4,378
6. Other	11	11
7. Net Change in Unrealized Gain (Loss)	<u>(6,068)</u>	<u>0</u>
8. Total Revenue	<u>\$7,633</u>	<u>\$13,701</u>
C. OPERATING EXPENSES		
1. Service Retirements	\$7,366	\$7,366
2. Disability Benefits	85	85
3. Survivor Benefits	455	455
4. Refunds	228	228
5. Investment Fees	449	449
6. Administrative Expenses	320	320
7. Other	<u>0</u>	<u>0</u>
8. Total Disbursements	<u>\$8,903</u>	<u>\$8,903</u>
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	<u><u>\$134,903</u></u>	<u><u>\$132,997</u></u>

TABLE 3

## Duluth Teachers' Retirement Fund

ACTIVE MEMBERS AS OF JUNE 30, 1994

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	28	6							34
25-29	53	37	7						97
30-34	43	36	43	4					126
35-39	39	48	74	20	5				186
40-44	52	47	91	44	48	25			307
45-49	43	31	62	33	42	73	20		304
50-54	17	9	27	18	34	50	77	12	244
55-59	11	12	7	13	22	24	27	20	136
60-64	7	4	5	3	5	9	1	2	36
65+	7	1	2				4		14
ALL	300	231	318	135	156	181	129	34	1,484

## AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	2,795	22,279							6,233
25-29	3,425	19,338	22,631						10,881
30-34	3,931	17,426	27,262	35,167					16,741
35-39	5,076	22,599	27,655	37,607	42,556				23,087
40-44	3,330	22,963	35,113	37,403	39,099	42,395			29,414
45-49	4,788	20,038	32,328	39,279	41,460	45,014	43,381		32,969
50-54	4,987	24,407	33,232	35,239	42,250	43,241	45,300	46,197	38,840
55-59	2,616	22,350	33,508	41,354	41,666	45,234	44,292	44,434	37,912
60-64	2,565	10,623	15,704	37,904	44,227	44,874	45,112	44,486	28,105
65+	1,029	1,014	34,952				45,185		18,490
ALL	3,815	20,749	30,997	37,929	41,059	44,185	44,787	45,059	28,724

## 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	1,144	4,793	9,857	5,120	6,405	7,997	5,777	1,532	42,626

TABLE 4

## Duluth Teachers' Retirement Fund

## SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								
50-54		1						1
55-59	11	63						74
60-64	8	117	54				1	180
65-69	4	42	92	34	1			173
70-74	1	1	40	54	12			108
75-79		1	3	45	29	2		80
80-84				1	49	20	1	71
85+					2	49	36	87
ALL	24	225	189	134	93	71	38	774

## AVERAGE ANNUAL BENEFIT

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								
50-54		9,148						9,148
55-59	15,056	14,924						14,944
60-64	11,615	14,690	7,036				13,053	12,234
65-69	4,324	8,811	7,744	3,064	2,381			6,973
70-74	14,682	16,176	6,524	5,617	1,928			5,725
75-79		4,551	3,671	4,145	3,707	1,346		3,904
80-84				5,801	3,848	3,686	4,452	3,838
85+					4,495	4,744	4,107	4,475
ALL	12,105	13,590	7,219	4,476	3,554	4,350	4,352	7,896

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED								
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	290	3,044	1,364	599	330	308	165	6,103

TABLE 5

## Duluth Teachers' Retirement Fund

SURVIVORS AS OF JUNE 30, 1994

AGE	YEARS SINCE DEATH							ALL
	<u>&lt;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	1					3
50-54		1						1
55-59	1	3						4
60-64	2	1	1					4
65-69		4	2	1				7
70-74	2		3	1		1		7
75-79		2	1	1	3	1	2	10
80-84		2			1			3
85+	3	4		2	1	1		11
ALL	8	19	8	5	5	3	2	50

## AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<u>&lt;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		6,296	533					4,375
50-54		9,354						9,354
55-59	14,727	10,683						11,694
60-64	9,280	3,964	6,450					7,244
65-69		5,062	7,221	5,920				5,801
70-74	1,245		5,578	6,042		2,346		3,945
75-79		5,807	1,403	2,301	2,838	1,322	2,473	3,010
80-84		3,447			1,856			2,917
85+	2,439	2,577		2,916	4,580	3,024		2,824
ALL	5,387	5,633	4,945	4,019	2,990	2,231	2,473	4,727

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH								
AGE	<u>&lt;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	43,096	107,027	39,560	20,095	14,950	6,693	4,946	236,350

TABLE 6

**Duluth Teachers' Retirement Fund**  
**DISABILITY RETIREMENTS AS OF JUNE 30, 1994**

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u>&lt;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		1	1					2
55-59								
60-64		2	1		1			4
65-69								
70-74								
75-79								
80-84								
85+								
ALL		4	3		1			8

**AVERAGE ANNUAL BENEFIT**

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u>&lt;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		13,639	1,252					7,446
50-54		9,474	6,372					7,923
55-59								
60-64		12,873	17,816		2,724			11,572
65-69								
70-74								
75-79								
80-84								
85+								
ALL		12,215	8,480		2,724			9,628

<u>TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED</u>								
<u>AGE</u>	<u>&lt;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		48,860	25,440		2,724			77,024

TABLE 7

## Duluth Teachers' Retirement Fund

*Reconciliation Of Members*

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1993	1,453	94	554
B. ADDITIONS	215	30	142
C. DELETIONS			
1. Service Retirement	(17)	(5)	0
2. Disability	0	0	0
3. Death	0	(1)	0
4. Terminated - Deferred	(142)	0	0
5. Terminated - Refund	(18)	0	(92)
6. Terminated - Other Non-Vested	0	0	0
7. Returned as Active	0	0	(40)
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	(7)	6	(5)
Vested	1,019		
Non-Vested	465		
E. TOTAL ON JUNE 30, 1994	1,484	124	559

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1993	770	8	44
B. ADDITIONS	26	0	5
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	(21)	0	(1)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	(1)	0	2
E. TOTAL ON JUNE 30, 1994	774	8	50



## Duluth Teachers' Retirement Fund

**Actuarial Balance Sheet***(dollars in thousands)*

JULY 1, 1994

A. CURRENT ASSETS (TABLE 1, F6)				\$133,632
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)				\$2,803
2. Present Value of Future Normal Costs				41,872
3. Total Expected Future Assets				<u>\$44,675</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				<u>\$178,307</u>
D. CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total	
1. Benefit Recipients				
a. Retirement Annuities		\$54,271	\$54,271	
b. Disability Benefits		887	887	
c. Surviving Spouse and Child Benefits		2,142	2,142	
2. Deferred Retirements with Future Augmentation		1,430	1,430	
3. Former Members without Vested Rights		203	203	
4. Active Members				
a. Retirement Annuities	256	58,643	58,899	
b. Disability Benefits	5,926	0	5,926	
c. Survivor's Benefits	1,407	0	1,407	
d. Deferred Retirements	45	3,457	3,502	
e. Refund Liability Due to Death or Withdrawal	0	369	369	
5. Total Current Benefit Obligations	<u>\$7,634</u>	<u>\$121,402</u>	<u>\$129,036</u>	
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$49,878</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$178,914</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				(\$4,596)
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				\$607

## Duluth Teachers' Retirement Fund

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

JULY 1, 1994

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Benefits (2)	Actuarial Accrued Liability (3)=(1)-(2)
<b>A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)</b>			
1. Active Members			
a. Retirement Annuities	\$101,415	\$30,606	\$70,809
b. Disability Benefits	10,180	4,222	5,958
c. Survivor's Benefit	2,409	1,049	1,360
d. Deferred Retirements	5,294	4,114	1,180
e. Refunds Due to Death or Withdrawal	683	1,881	(1,198)
f. Total	<u>\$119,981</u>	<u>\$41,872</u>	<u>\$78,109</u>
2. Deferred Retirements With Future Augmentation	1,430		1,430
3. Former Members Without Vested Rights	203		203
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	<u>57,300</u>		<u>57,300</u>
6. Total	<u>\$178,914</u>	<u>\$41,872</u>	<u>\$137,042</u>
<b>B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)</b>			
1. AAL (A6)			\$137,042
2. Current Assets (Table 1, F6)			<u>133,632</u>
3. UAAL (B1-B2)			<u>\$3,410</u>
<b>C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE</b>			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			\$904,281
2. Supplemental Contribution Rate (B3/C1)			0.38%

## Duluth Teachers' Retirement Fund

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

YEAR ENDING JUNE 30, 1994

A. UAAL AT BEGINNING OF YEAR	\$1,844
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$4,218
2. Contribution	(4,727)
3. Interest on A, B1 and B2	<u>135</u>
4. Total (B1+B2+B3)	<u>(\$374)</u>
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$1,470
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$3,161)
2. Investment Return	4,474
3. MPRIF Mortality	0
4. Mortality of Other Benefit Recipients	500
5. Repayment of Refunded Contributions	(67)
6. Other Items	<u>194</u>
7. Total	<u>\$1,940</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D5)	\$3,410
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
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>\$3,410</u></u>

## Duluth Teachers' Retirement Fund

**Determination Of Contribution Sufficiency***(dollars in thousands)*

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	4.50%	\$2,044
2. Employer Contributions	5.79%	2,630
3. Total	10.29%	\$4,674
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	6.76%	\$3,069
b. Disability benefits	0.89%	403
c. Survivors	0.22%	102
d. Deferred Retirement Benefits	0.86%	390
e. Refunds Due to Death or Withdrawal	0.49%	223
f. Total	9.22%	\$4,187
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	0.38%	173
3. Allowance for Expenses	0.76%	345
4. Total	10.36%	\$4,705
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-0.07%	(\$31)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is \$45,415.

## Duluth Teachers' Retirement Fund

***Summary of Actuarial Assumptions and Methods***

<b><i>Interest:</i></b>	<b>Pre-Retirement:</b> 8.5% per annum <b>Post-Retirement:</b> 8.5% per annum
<b><i>Salary Increases:</i></b>	Reported salary increased 6.5% to current fiscal year and 6.5% annually for each future year.
<b><i>Mortality:</i></b>	<b>Pre-Retirement:</b> Male - 1971 Group Annuity Mortality Table male rates set back 8 years Female - 1971 Group Annuity Mortality Table male rates set back 8 years  <b>Post-Retirement:</b> Male - Same as above Female - Same as above  <b>Post-Disability:</b> Male - Same as above Female - Same as above
<b><i>Retirement Age:</i></b>	Age 61 for the Old Plan and age 63 for the New Plan. In addition, 30% of the Members are assumed to retire each year that they are eligible for Rule of 90.
<b><i>Separation:</i></b>	Graded rates shown in rate table.
<b><i>Disability:</i></b>	Rates as shown in rate table.
<b><i>Expenses:</i></b>	Prior year administrative expenses expressed as percentage of prior year payroll.
<b><i>Return of Contributions:</i></b>	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.
<b><i>Family Composition:</i></b>	80% of Members are assumed to be married. Female is three years younger than male.
<b><i>Social Security:</i></b>	N/A

<b><i>Benefit Increases After Retirement:</i></b>	N/A
<b><i>Special Consideration:</i></b>	<p>Annual bonus payment totaling 1% of the year end assets is accounted for by using a 7.5% post- and pre-retirement interest rate. Members in the Old Plan are assumed to receive their retirement benefits from the New Plan. Members who terminated under the Old Plan are assumed to take refund under the New Plan.</p> <p>Married Members assumed to elect subsidized joint and survivor form of annuity as follows:</p> <p><b>Males</b> -      40% elect 50% J&amp;S option                      40% elect 100% J&amp;S option</p> <p><b>Females</b> -    10% elect 50% J&amp;S option                      10% elect 100% J&amp;S option</p>
<b><i>Actuarial Cost Method:</i></b>	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.
<b><i>Asset Valuation Method:</i></b>	Cost Value plus one-third Unrealized Gains or Losses.
<b><i>Payment on the Unfunded Actuarial Accrued Liability:</i></b>	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.

**TABLE 12**  
(Continued)

**Duluth Teachers' Retirement Fund**

***Summary of Actuarial Assumptions and Methods***

**Separation Expressed as Number of Occurrences Per 10,000:**

<b>Age</b>	<b>Death</b>		<b>Withdrawal</b>		<b>Disability</b>		<b>Retirement</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
20	4	4	2,000	2,000	28	28	0	0
21	4	4	1,931	1,931	28	28	0	0
22	4	4	1,731	1,731	28	28	0	0
23	4	4	1,532	1,532	28	28	0	0
24	4	4	1,332	1,332	28	28	0	0
25	5	5	1,132	1,132	28	28	0	0
26	5	5	932	932	28	28	0	0
27	5	5	732	732	28	28	0	0
28	5	5	703	703	28	28	0	0
29	5	5	673	673	28	28	0	0
30	5	5	643	643	28	28	0	0
31	6	6	612	612	28	28	0	0
32	6	6	582	582	28	28	0	0
33	6	6	552	552	28	28	0	0
34	7	7	522	522	28	28	0	0
35	7	7	491	491	29	29	0	0
36	7	7	461	461	29	29	0	0
37	8	8	430	430	30	30	0	0
38	8	8	409	409	31	31	0	0
39	9	9	389	389	31	31	0	0
40	9	9	368	368	32	32	0	0
41	10	10	347	347	33	33	0	0
42	10	10	325	325	35	35	0	0
43	11	11	304	304	37	37	0	0
44	12	12	282	282	38	38	0	0
45	13	13	260	260	41	41	0	0
46	14	14	237	237	43	43	0	0
47	15	15	214	214	46	46	0	0
48	16	16	191	191	49	49	0	0
49	18	18	167	167	53	53	0	0

**TABLE 12**  
(Continued)

**Duluth Teachers' Retirement Fund**

***Summary of Actuarial Assumptions and Methods***

**Separation Expressed as 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>
50	20	20	143	143	57	57	0	0
51	23	23	118	118	62	62	0	0
52	26	26	92	92	68	68	0	0
53	29	29	67	67	74	74	0	0
54	33	33	40	40	80	80	0	0
55	38	38	13	13	87	87	0	0
56	42	42	0	0	95	95	0	0
57	47	47	0	0	104	104	0	0
58	53	53	0	0	114	114	0	0
59	59	59	0	0	125	125	0	0
60	65	65	0	0	136	136	0	0
61	71	71	0	0	149	149	0	0
62	78	78	0	0	163	163	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  
OLD**

**Duluth Teachers' Retirement Fund**

**ACTIVE MEMBERS AS OF JUNE 30, 1994**

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u>&lt;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									
25-29									
30-34									
35-39			1	8	5				14
40-44			1	20	48	25			94
45-49		1		18	42	73	20		154
50-54			1	9	34	50	77	12	183
55-59			1	6	22	24	27	20	100
60-64			1	2	5	9	1	2	20
65+			1				4		5
ALL		1	6	63	156	181	129	34	570

**AVERAGE ANNUAL EARNINGS**

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u>&lt;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									
25-29									
30-34									
35-39			18,197	38,318	42,556				38,394
40-44			34,906	37,611	39,099	42,395			39,614
45-49		14,797		38,860	41,460	45,014	43,381		42,917
50-54			37,538	32,457	42,250	43,241	45,300	46,197	43,556
55-59			36,427	44,672	41,666	45,234	44,292	44,434	43,913
60-64			3,054	41,330	44,227	44,874	45,112	44,486	42,240
65+			39,066				45,185		43,961
ALL		14,797	28,198	38,112	41,059	44,185	44,787	45,059	42,626

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

<u>AGE</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
ALL		14	169	2,401	6,405	7,997	5,777	1,532	24,296

TABLE 4A  
OLD

Duluth Teachers' Retirement Fund  
SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								
50-54								
55-59	6	32						38
60-64	1	31	25					57
65-69		1	38	29	1			69
70-74			14	43	12			69
75-79			2	42	29	2		75
80-84				1	49	20	1	71
85+					2	49	36	87
ALL	7	64	79	115	93	71	37	466

AVERAGE ANNUAL BENEFIT

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								
50-54								
55-59	16,581	14,743						15,033
60-64	3,774	14,243	5,944					10,351
65-69		2,124	6,216	2,414	2,381			4,503
70-74			5,874	4,965	1,928			4,621
75-79			2,780	4,074	3,707	1,346		3,825
80-84				5,801	3,848	3,686	4,452	3,838
85+					4,495	4,744	4,107	4,475
ALL	14,751	14,305	5,982	4,004	3,554	4,350	4,116	5,869

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED								
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	103	901	472	460	330	308	152	2,729

TABLE 5A  
OLD

**Duluth Teachers' Retirement Fund**  
SURVIVORS AS OF JUNE 30, 1994

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		2	1					3
50-54		1						1
55-59	1							1
60-64	1							1
65-69		3	1	1				5
70-74	1		1	1		1		4
75-79		1	1	1	3	1	2	9
80-84		2			1			3
85+		2		2	1	1		6
ALL	3	11	4	5	5	3	2	33

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		6,296	533					4,375
50-54		9,354						9,354
55-59	14,727							14,727
60-64	5,374							5,374
65-69		5,011	2,033	5,920				4,597
70-74	1,699		5,041	6,042		2,346		3,782
75-79		2,343	1,403	2,301	2,838	1,322	2,473	2,314
80-84		3,447			1,856			2,917
85+		2,716		2,916	4,580	3,024		3,145
ALL	7,267	4,695	2,253	4,019	2,990	2,231	2,473	3,913

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH								
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	21,801	51,645	9,012	20,095	14,950	6,693	4,946	129,129

TABLE 6A  
OLD

Duluth Teachers' Retirement Fund  
DISABILITY RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS DISABLED							ALL
	<u>&lt;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								
50-54			1					1
55-59								
60-64					1			1
65-69								
70-74								
75-79								
80-84								
85+								
ALL			1		1			2

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<u>&lt;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								
50-54			6,372					6,372
55-59								
60-64					2,724			2,724
65-69								
70-74								
75-79								
80-84								
85+								
ALL			6,372		2,724			4,548

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED								
AGE	<u>&lt;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			6,372		2,724			9,096

## Duluth Teachers' Retirement Fund

**Determination Of Contribution Sufficiency**  
*(dollars in thousands)*

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	4.50%	\$1,165
2. Employer Contributions	5.79%	1,499
3. Total	10.29%	\$2,664
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	6.38%	\$1,652
b. Disability benefits	0.75%	195
c. Survivors	0.20%	52
d. Deferred Retirement Benefits	0.96%	249
e. Refunds Due to Death or Withdrawal	0.69%	179
f. Total	8.98%	\$2,327

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is \$25,882.

<b>Eligibility:</b>	A teacher who is employed by the Board of Education of the City of Duluth. Also includes any employees of the Retirement Fund and certain part-time employees licensed by the State Department of Education. Employees in the Old Plan are those first hired before July 1, 1981.
<b>Contributions:</b>	
<i>Member:</i>	4.5% of salary.
<i>Employer:</i>	5.79% of salary.
<b>Credited Service:</b>	Earned while employed by the school district in a position with respect to which regular contributions are made. Credit is granted for service less than a legal school year on a pro rata basis.
<b>Salary:</b>	Annual contract salary.
<b>Average Salary:</b>	Average of the five highest years of annual salary.

***Normal Retirement Benefit:***

Page 26

1.5% of Average Salary for each year of Credited Service assuming augmentation to age 65 at 3% per year and actuarial reduction for each month Member is under age 65.

Minimum benefit for employees who were Members on June 30, 1971 is equal to the actuarial equivalent of 2.4 times the accumulated regular contributions.

***Early Retirement Benefit:***

*Eligibility:* Age 55 and five years of Credited Service.  
Rule of 90: Age plus Credited Service totals 90.

*Amount:* The greater of  
1.25% of Average Salary for each year of Credited Service with reduction of 0.25% for each month the Member is under age 60. No reduction if age plus years of Credited Service totals 90.  
or  
1% of Average Salary for each of 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 (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 Credited 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:

5, 10, 15 or 20 year certain and life.  
50% or 100% joint and survivor with bounce back feature without additional reduction.  
Other equivalent options approved by the Board.

*Benefit Increases:* The Board of Trustees may declare a bonus of up to 1% of the asset value of the fund at the end of the previous fiscal year. This bonus is allocated to those eligible on a prorated basis according to the combined number of years

of service and years receiving a benefit. A retired Member is eligible if receiving an annuity for at least one year. Members have the option of receiving the increase in the form of a lump sum or may annuitize the increase at 7.5%.

Members retired under laws in effect before June 30, 1971 receive an additional lump-sum payment each year. In 1989 this lump-sum payment is the greater of \$25 times each full year of Credited Service or the difference between \$400 times each full year of Credited Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the 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:*

<i>Eligibility:</i>	Totally and permanently disabled as a teacher before the age of 60 with five years of Credited Service.
<i>Amount:</i>	Normal Retirement Benefit based on Credited Service and Average Salary at disability date without reduction for early commencement. Amount is reduced for Workers' Compensation.  Payment stops at age 60 or earlier if disability ceases or death occurs.
<i>Form of Payment:</i>	Same as for retirement.
<i>Benefit Increases:</i>	Same as for retirement.



## DEATH

### *Return of Contributions I:*

<i>Eligibility:</i>	Death while active.
<i>Amount:</i>	Two times regular contributions accumulated with 5% interest if death occurred before May 16, 1989 or 6% interest if death occurred on or after May 16, 1989.

### *Return of Contributions II:*

<i>Eligibility:</i>	Death of Member who terminated employment after 10 years of service.
<i>Amount:</i>	Regular contributions accumulated with 5% interest if death occurred before May 16, 1989 or 6% interest if death occurred on or after May 16, 1989.

### *Return of Contributions III:*

<i>Eligibility:</i>	Death of a retired or disabled Member whose benefits have commenced in the form of a life annuity or the death of a survivor of a retired or disabled Member under a joint and survivor option.
<i>Amount:</i>	Excess of regular contributions accumulated with 5% interest if death occurred before May 16, 1989 or 6% interest if death occurred on or after May 16, 1989 over total benefits paid.

### *Surviving Spouse Benefit*

#### *Optional Annuity I*

<i>Eligibility:</i>	Death of active Member with 10 years of Credited Service.
<i>Amount:</i>	In lieu of Return of Contributions I, an annuity to surviving spouse equivalent to 120% of the value of what would have been refunded.

***Optional Annuity II***

<i>Eligibility:</i>	Death of active Member who is age 50 with 10 years of Credited Service. If the Member dies before age 55, benefits commence when Member would have been age 55.
<i>Amount:</i>	In lieu of Return of Contributions I or Surviving Spouse Optional Annuity I, spouse receives survivor portion of the joint and 100% contingent annuity the Member could have elected if terminated.

**TERMINATION**

***Refund of Employee Contributions:***

<i>Eligibility:</i>	Termination from teaching service.
<i>Amount:</i>	Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989 and 6% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund if the Member has 10 years of Credited Service.

***Deferred Annuity:***

<i>Eligibility:</i>	Ten years of Credited Service.
<i>Amount:</i>	Benefit computed under law in effect at termination and increased by the following annual percentage: 3% 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.

**SUMMARY OF SIGNIFICANT CHANGES**

None

**TABLE 3B**  
**NEW**

**Duluth Teachers' Retirement Fund**

**ACTIVE MEMBERS AS OF JUNE 30, 1994**

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u>&lt;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	28	6							34
25-29	53	37	7						97
30-34	43	36	43	4					126
35-39	39	48	73	12					172
40-44	52	47	90	24					213
45-49	43	30	62	15					150
50-54	17	9	26	9					61
55-59	11	12	6	7					36
60-64	7	4	4	1					16
65+	7	1	1						9
ALL	300	230	312	72					914

**AVERAGE ANNUAL EARNINGS**

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u>&lt;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	2,795	22,279							6,233
25-29	3,425	19,338	22,631						10,881
30-34	3,931	17,426	27,262	35,167					16,741
35-39	5,076	22,599	27,785	37,137					21,841
40-44	3,330	22,963	35,116	37,236					24,913
45-49	4,788	20,213	32,328	39,791					22,757
50-54	4,987	24,407	33,067	38,022					24,695
55-59	2,616	22,350	33,022	38,515					21,242
60-64	2,565	10,623	18,867	31,054					10,436
65+	1,029	1,014	30,838						4,339
ALL	3,815	20,775	31,051	37,774					20,055

<u>AGE</u>	<u>PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE</u>								<u>ALL</u>
	<u>&lt;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	1,144	4,778	9,687	2,719					18,330

TABLE 4B  
NEW

**Duluth Teachers' Retirement Fund**  
SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								
50-54		1						1
55-59	5	31						36
60-64	7	86	29				1	123
65-69	4	41	54	5				104
70-74	1	1	26	11				39
75-79		1	1	3				5
80-84								
85+								
ALL	17	161	110	19			1	308

AVERAGE ANNUAL BENEFIT

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								
50-54		9,148						9,148
55-59	13,230	15,128						14,864
60-64	12,736	14,859	7,992				13,053	13,104
65-69	4,324	8,973	8,831	6,846				8,618
70-74	14,682	16,176	6,880	8,179				7,685
75-79		4,551	5,453	5,191				5,115
80-84								
85+								
ALL	11,017	13,321	8,118	7,356			13,053	10,966

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED								
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	187	2,144	892	139			13	3,377

TABLE 5B  
NEW

**Duluth Teachers' Retirement Fund**  
SURVIVORS AS OF JUNE 30, 1994

AGE	YEARS SINCE DEATH							ALL
	<u>&lt;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								
50-54								
55-59		3						3
60-64	1	1	1					3
65-69		1	1					2
70-74	1		2					3
75-79		1						1
80-84								
85+	3	2						5
ALL	5	8	4					17

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<u>&lt;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								
50-54								
55-59		10,683						10,683
60-64	13,186	3,964	6,450					7,867
65-69		5,217	12,410					8,814
70-74	792		5,846					4,161
75-79		9,271						9,271
80-84								
85+	2,439	2,439						2,439
ALL	4,259	6,922	7,638					6,308

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH								
AGE	<u>&lt;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	21,295	55,376	30,552					107,236

TABLE 6B  
NEW

**Duluth Teachers' Retirement Fund**  
**DISABILITY RETIREMENTS AS OF JUNE 30, 1994**

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u>&lt;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		1						1
55-59								
60-64		2	1					3
65-69								
70-74								
75-79								
80-84								
85+								
ALL		4	2					6

**AVERAGE ANNUAL BENEFIT**

<u>AGE</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u>&lt;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		13,639	1,252					7,446
50-54		9,474						9,474
55-59								
60-64		12,873	17,816					14,521
65-69								
70-74								
75-79								
80-84								
85+								
ALL		12,215	9,534					11,322

<u>TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED</u>								
<u>AGE</u>	<u>&lt;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		48,860	19,068					67,932

## Duluth Teachers' Retirement Fund

**Determination Of Contribution Sufficiency***(dollars in thousands)*

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	4.50%	\$879
2. Employer Contributions	5.79%	1,131
3. Total	10.29%	\$2,010
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.25%	\$1,416
b. Disability benefits	1.06%	208
c. Survivors	0.26%	50
d. Deferred Retirement Benefits	0.72%	141
e. Refunds Due to Death or Withdrawal	0.23%	44
f. Total	9.52%	\$1,859

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is \$19,533.

**Duluth Teachers' Retirement Fund**

***Summary of Plan Provisions***

**GENERAL**

***Eligibility:*** A teacher who is employed by the Board of Education of the City of Duluth. Also includes any employees of the Retirement Fund and certain part-time employees licensed by the State Department of Education. Employees in the New Plan are those first hired on or after July 1, 1981 including any Old Plan Members who may elect to join any time prior to retirement.

***Contributions:***

***Member:*** 4.5% of salary.

***Employer:*** 5.79% of salary.

***Allowable Service:*** Earned 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.

***Salary:*** Total compensation. Excludes any lump-sum annual leave or sick leave payments and lump-sum payment at separation.

***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 Benefit:***

***Eligibility:*** First hired before July 1, 1989:  
Age 65 and three 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 and three years of Allowable Service.



Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.

*Amount:*

Hired before July 1, 1989:

The greater of 1% of average salary for each of the first 10 years of Allowable Service and 1.5% of average salary for each subsequent year.

or

1.5% of average salary for each year of Allowable Service.

Hired after June 30, 1989:

1.5% of Average Salary for each year of Allowable Service.

***Early Retirement Benefit:****Eligibility:*

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.

Hired after June 30, 1989:

Age 55 and three years of Allowable Service.

*Amount:*

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 (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.

Hired after June 30, 1989:

1.5% of Average Salary for each year of Allowable Service with 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 Social Security retirement age.

*Form of Payment:* Life annuity. Actuarially equivalent options are:

5, 10, 15 or 20 year certain and life.

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

A larger life annuity before age 62 and reduced thereafter.

*Benefit Increases:* The Board of Trustees may declare a bonus of up to 1% of the asset value of the fund at the end of the previous fiscal year. This bonus is allocated to those eligible on a prorated basis according to the combined number of years of service and years receiving a benefit. A retired Member is eligible if receiving an annuity for at least one year. Members have the option of a lump sum or may annuitize the increase at 7.5%.

Members retired under laws in effect before June 30, 1971 receive an additional lump-sum payment each year. In 1989 this lump-sum payment is \$25 times each full year of Credited 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:* Totally and permanently disabled under normal retirement age and is age 50 or older with three years of Allowable Service. Also, at least two 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 commencement before retirement age. Benefit is reduced by Workers' Compensation.

Payments may begin 90 days after disability and stops at normal retirement age, or earlier if disability ceases or death occurs. Benefits paid while partially employed may be reduced.

*Form of Payment:* Same as for retirement.

*Benefit Increases:* Same as for retirement.

***Retirement After Disability:***

*Eligibility:* Normal retirement age if still totally and permanently disabled.

*Amount:* 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 actuarial equivalent optional annuity.

*Benefit Increase:* Same as for retirement.

## DEATH

***Surviving Spouse Optional Annuity:***

*Eligibility:* Member who dies before retirement benefits commence with three years of Allowable Service.

*Amount:* 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.

*Benefit Increases:* Same as for retirement.

***Refund of Member's Contributions:***

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

*Amount:* Member's contributions with 5% interest if death occurred before May 16, 1989 or 6% interest if death occurred on or after May 16, 1989.

## TERMINATION

### *Refund of Member's Contributions:*

*Eligibility:* Termination from teaching service.

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

### *Deferred Annuity:*

*Eligibility:* Three years of Allowable Service.

*Amount:* Benefit computed under law in effect at termination and increased by the following annual percentage: 3% 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.

## SUMMARY OF SIGNIFICANT CHANGES

None



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Wendell Milliman, F.S.A. (1976)  
Stuart A. Robertson, F.S.A.  
Chairman Emeritus

October 24, 1994

Mr. Lawrence A. Martin  
Executive Director  
Minnesota Legislative Commission  
on Pensions and Retirement  
55 State Office Building  
St. Paul, Minnesota 55155-1201

Dear Larry:

Enclosed are two bound copies and one loose copy of the Duluth Teachers Retirement Fund final actuarial valuation reports for July 1, 1994.

At the direction of Jay Stoffel, we made a few small changes to assets, one of which decreased the expense contribution by .03% of payroll.

If you have any questions regarding our report, please do not hesitate to call.

Sincerely,

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

TKC/bh

cc: Jay Stoffel, Duluth Teachers' Retirement Fund Association  
John Gunyou, Commissioner of Finance (2)  
Jim Nobles, Legislative Auditor  
Legislative Reference Library (2)

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