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**Duluth Teachers Retirement Fund
ACTUARIAL VALUATION REPORT**

July 1, 2003



Milliman USA

Consultants and Actuaries

15800 Bluemound Road, Suite 400

Brookfield, WI 53005-6069

Tel +1 262 784.2250

Fax +1 262 784.7287

www.milliman.com

November 21, 2003

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

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, 2003.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. Although we have reviewed the data for reasonableness and consistency, 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.

We, Thomas K. Custis and William V. Hogan, are actuaries for Milliman USA. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Milliman USA

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

William V. Hogan, F.S.A., M.A.A.A.
Consulting Actuary

TKC/WVH/bh

Duluth Teachers Retirement Fund

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Duluth Teachers Retirement Fund
Report Highlights
(dollars in thousands)

	July 1, 2002 Valuation	July 1, 2003 Valuation
A. CONTRIBUTIONS % OF PAYROLL (Table 11)		
1. Statutory Contributions - Chapter 354A	11.29%	11.29%
2. Required Contributions - Chapter 356	9.85%	11.27%
3. Sufficiency / (Deficiency)	1.44%	0.02%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$ 280,515	\$ 278,467
b. Current Benefit Obligations (Table 8)	268,200	279,444
c. Funding Ratio	104.59%	99.65%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$ 280,515	\$ 278,467
b. Actuarial Accrued Liability (Table 9)	279,428	291,109
c. Funding Ratio	100.39%	95.66%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$ 331,206	\$ 330,285
b. Current and Expected Future Benefit Obligations	317,753	330,102
c. Funding Ratio	104.23%	100.06%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	1,276	1,373
b. Projected Annual Earnings	\$ 50,438	\$ 52,972
c. Average Annual Earnings (Actual dollars)	\$ 37,310	\$ 36,431
d. Average Age	45.0	44.5
e. Average Service	11.5	11.0
2. Others		
a. Service Retirements (Table 4)	1,004	1,019
b. Survivors (Table 5)	68	74
c. Disability Retirements (Table 6)	13	14
d. Deferred Retirements (Table 7)	305	187
e. Terminated Other Non-Vested (Table 7)	769	826
f. Total	2,159	2,120

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 99.65%. The corresponding ratio for the prior year was 104.59%.
- 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 2003 the ratio is 95.66%, which is a decrease from the 2002 ratio of 100.39%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 100.06% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

Effective with the July 1, 2000 valuation of the fund, Minnesota Statutes require that the asset value used for actuarial purposes spread differences between actual return (measured on a market-value basis) and expected return on assets over five years. The previous method required under Minnesota Statutes recognized one third of the unrealized gains and losses. An Asset Valuation Method requirement exists because market values (which include all unrealized gains and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year. The intent of the change to the current method is to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style. The effective date of this requirement is July 1, 2000 with full transition to be accomplished as of July 1, 2003.

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

Market Value of Assets at June 30, 2003, *less*

80% of the current year Unrecognized Asset Return at July 1, 2003 (the difference between actual net return on Market Value of Assets between June 30, 2002 and June 30, 2003 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2002 Actuarial Valuation); *less*

60% of the current year Unrecognized Asset Return at July 1, 2002 (the difference between actual net return on Market Value of Assets between June 30, 2001 and June 30, 2002 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2001 Actuarial Valuation); *less*

40% of the current year Unrecognized Asset Return at July 1, 2001 (the difference between actual net return on Market Value of Assets between June 30, 2000 and June 30, 2001 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2000 Actuarial Valuation); *less*

20% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between June 30, 1999 and June 30, 2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation).

Since its adoption on July 1, 2000, the Asset Valuation Method has functioned effectively to smooth the significant variability in market value returns. It is prudent to note, however, that the deferral of recognition of the large market losses of the last three fiscal years means there has accumulated a significant negative return amount that will be recognized over the next few years. This means that in order for asset returns on a "Current Assets" basis to be at or near the assumed 8.5%, market value returns will need to be substantially above 8.5%; conversely, if market value returns are at or near the assumed 8.5%, returns measured on a "Current Assets" basis will be substantially lower, resulting in actuarial losses.

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 levels is calculated as follows:

- For Active Members – Salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- For Non-Active Members – The discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

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

Actuarial Cost Method (Table 9)

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

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

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

Source of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectations. For a detailed analysis of the major components, refer to Table 10.

As anticipated last year, there is a source of modest loss which deserves special mention. The valuation assumes that each year salaries of teachers will increase according to the scale in Table 12. The Duluth teachers union has negotiated a new contract with the Board. Since the old contract expired over one year prior to the valuation date last year, the reported salaries did not reflect any increases in pay. That situation produced significant gains in the valuation results for last year. The situation has reversed itself with the new contract providing for retroactive pay increases. This has resulted in a loss compared to last year.

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 11.29% compared to the Required Contribution Rate of 11.27%.

Changes in Actuarial Assumptions and Methods

All actuarial assumptions are the same as those used in the prior valuation. Table 12 contains a summary of all actuarial assumptions and methods.

Changes in Plan Provisions

All plan provisions are the same as those used in the prior actuarial valuation of the Fund. Tables 13A and 13B contain summaries of current plan benefits.

TABLE 1

Duluth Teachers Retirement Fund
Statement of Plan Net Assets
(dollars in thousands)

July 1, 2003

	Market Value	Cost Value
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-Term Securities	\$ 37,156	\$ 37,156
2. Investments		
a. Fixed Income	120,372	118,969
b. Equity	88,774	92,708
c. Real Estate and Mortgage Loans	4,174	4,174
d. Invested Securities Lending Collateral	33,695	33,695
3. Equity in Minnesota Post-Retirement Investment Fund	-	-
4. Other Assets	418	418
Subtotal	<u>\$ 284,589</u>	<u>\$ 287,120</u>
B. ASSETS RECEIVABLE	\$ 3,161	\$ 3,161
C. LIABILITIES		
1. Invested Securities Lending Collateral	\$ (33,695)	\$ (33,695)
2. Other	\$ (22,808)	\$ (22,808)
Subtotal	<u>\$ (56,503)</u>	<u>\$ (56,503)</u>
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	\$ -	\$ -
2. Member Reserves	\$ 29,173	\$ 29,173
3. Other Non-MPRIF Reserves	202,074	204,605
4. Total Assets Available for Benefits	<u>\$ 231,247</u>	<u>\$ 233,778</u>
E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Market Value of Assets Available for Benefits (D4)		\$ 231,247
2. Unrecognized Asset Returns (UAR)		
a. June 30, 2003	\$ (11,347)	
b. June 30, 2002	(44,781)	
c. June 30, 2001	(48,888)	
d. June 30, 2000	<u>41,405</u>	
3. UAR Adjustment: $.80 * 2(a) + .60 * 2(b) + .40 * 2(c) + .20 * 2(d)$		(47,220)
4. Actuarial Value of Assets (E1 - E3) (Same as "Current Assets")		<u>\$ 278,467</u>

TABLE 2

Duluth Teachers Retirement Fund
Statement of Change In Net Plan Assets
(dollars in thousands)

Year Ending June 30, 2003

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$ 234,371	\$ 243,210
B. ADDITIONS		
1. Member Contributions	\$ 3,299	\$ 3,299
2. Employer Contributions	2,933	2,933
3. Supplemental Contributions	-	-
4. Investment Income	7,224	7,224
5. MPRIF Income	-	-
6. Investment Expenses	(991)	(991)
7. Net Realized Gain / (Loss)	(4,736)	(4,736)
8. Other	293	293
9. Net Change in Unrealized Gain / (Loss)	6,308	-
10. Total Additions	\$ 14,330	\$ 8,022
C. OPERATING EXPENSES		
1. Service Retirements	\$ 15,579	\$ 15,579
2. Disability Benefits	181	181
3. Survivor Benefits	1,008	1,008
4. Refunds	241	241
5. Administrative Expenses	445	445
6. Total Operating Expenses	\$ 17,454	\$ 17,454
D. OTHER CHANGES IN RESERVES	\$ -	\$ -
E. ASSETS AVAILABLE AT END OF PERIOD	\$ 231,247	\$ 233,778
F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN		
1. Average Balance		
(a) Assets Available at Beginning of Period	\$ 234,371	
(b) Assets Available at End of Period	231,247	
(c) Average Balance $\{[(a) + (b) - \text{Net Investment Income}] / 2\}$	\$ 228,760	
{Net Investment Income: B.4+B.6+B.7+B.8+B.9}		
2. Expected Return: $.085 * F.1$	19,445	
3. Actual Return	8,098	
4. Current Year UAR: $F.3 - F.2$	\$ (11,347)	

TABLE 3

Duluth Teachers Retirement Fund
ACTIVE MEMBERS AS OF JUNE 30, 2003

<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	24	4	0	0	0	0	0	0	28
25-29	61	57	14	0	0	0	0	0	132
30-34	42	52	60	2	0	0	0	0	156
35-39	16	41	51	27	1	0	0	0	136
40-44	14	28	36	31	33	1	0	0	143
45-49	18	45	48	37	57	20	1	0	226
50-54	15	29	42	50	74	45	44	25	324
55-59	12	9	12	18	28	23	29	47	178
60-64	4	4	6	2	7	5	3	8	39
65+	4	1	1	0	3	2	0	0	11
ALL	210	270	270	167	203	96	77	80	1,373

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	2,119	25,452	0	0	0	0	0	0	5,452
25-29	3,267	21,756	35,887	0	0	0	0	0	14,711
30-34	4,530	25,860	37,106	56,016	0	0	0	0	24,829
35-39	6,018	28,167	39,719	42,584	61,745	0	0	0	33,002
40-44	3,874	23,889	35,958	48,880	51,248	54,881	0	0	36,916
45-49	3,565	22,833	41,899	46,851	54,113	55,613	63,807	0	40,251
50-54	3,429	28,952	41,291	48,348	56,288	56,120	58,440	62,486	48,972
55-59	3,007	31,157	46,648	48,198	56,326	55,593	61,735	61,528	52,145
60-64	4,221	4,358	38,640	47,574	51,580	49,214	58,357	55,280	40,660
65+	3,914	26,508	48,285	0	41,070	56,481	0	0	29,693
ALL	3,691	24,822	39,386	47,250	54,503	55,523	59,747	61,203	37,795

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

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	775	6,702	10,634	7,891	11,064	5,330	4,601	4,896	51,893

TABLE 4

Duluth Teachers Retirement Fund
Service Retirements as of June 30, 2003

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	1	0	0	0	0	1
50-54	0	0	1	0	0	0	0	1
55-59	16	63	2	1	0	0	0	82
60-64	13	117	76	2	0	0	0	208
65-69	1	38	79	94	0	0	1	213
70-74	0	5	34	110	53	0	0	202
75-79	0	1	4	33	76	24	0	138
80-84	0	0	0	3	27	46	11	87
85+	0	0	0	1	1	20	65	87
ALL	30	224	197	244	157	90	77	1,019

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	6,290	0	0	0	0	6,290
50-54	0	0	13,244	0	0	0	0	13,244
55-59	27,029	22,579	7,746	19,642	0	0	0	23,049
60-64	13,965	21,150	19,773	12,053	0	0	0	20,110
65-69	16,795	14,719	14,813	16,086	0	0	7,659	15,334
70-74	0	11,147	12,087	18,301	13,105	0	0	15,715
75-79	0	958	17,558	18,807	14,772	6,234	0	14,233
80-84	0	0	0	10,497	11,001	11,199	6,313	10,495
85+	0	0	0	8,927	1,269	10,052	9,937	9,852
ALL	21,027	20,147	16,189	17,336	13,475	9,620	9,390	15,964

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	631	4,513	3,189	4,230	2,116	866	723	16,267

TABLE 5

Duluth Teachers Retirement Fund
Survivors as of June 30, 2003

<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	0	0	4	2	2	0	0	8
50-54	0	1	0	0	1	0	0	2
55-59	0	0	0	0	0	0	0	0
60-64	0	1	3	2	0	0	0	6
65-69	0	0	3	8	0	0	0	11
70-74	0	2	0	6	7	1	0	16
75-79	0	0	0	2	10	4	1	17
80-84	0	0	1	0	0	5	1	7
85+	0	0	0	0	0	1	6	7
ALL	0	4	11	20	20	11	8	74

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	0	0	449	9,841	10,985	0	0	5,431
50-54	0	2,620	0	0	4,780	0	0	3,700
55-59	0	0	0	0	0	0	0	0
60-64	0	32,927	20,457	22,361	0	0	0	23,170
65-69	0	0	9,387	16,787	0	0	0	14,769
70-74	0	20,625	0	9,306	13,757	15,928	0	13,082
75-79	0	0	0	17,756	16,661	14,432	5,679	15,619
80-84	0	0	1,777	0	0	10,694	9,095	9,192
85+	0	0	0	0	0	14,868	8,300	9,238
ALL	0	19,199	8,464	14,502	14,483	12,908	8,072	12,921

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	0	77	93	290	290	142	65	956

TABLE 6

Duluth Teachers Retirement Fund
Disability Retirements as of June 30, 2003

<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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	4	2	1	0	0	7
60-64	0	4	1	1	0	0	0	6
65-69	0	0	1	0	0	0	0	1
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	4	6	3	1	0	0	14

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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	7,711	13,791	12,662	0	0	10,156
60-64	0	14,664	29,331	16,770	0	0	0	17,460
65-69	0	0	3,248	0	0	0	0	3,248
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	14,664	10,571	14,784	12,662	0	0	12,792

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	0	59	63	44	13	0	0	179

TABLE 7

Duluth Teachers Retirement Fund
Reconciliation of Members

	<u>Actives</u>	<u>Terminated</u>	
		<u>Deferred Retirement</u>	<u>Other Non-Vested</u>
A. ON JUNE 30, 2002	1,276	305	769
B. ADDITIONS	139	92	12
C. DELETIONS			
1. Service Retirement	(36)	(3)	0
2. Disability	0	(1)	0
3. Death	(2)	(1)	0
4. Terminated - Deferred	(92)	0	0
5. Terminated - Refund	(10)	(16)	0
6. Terminated - Other Non-Vested	(12)	0	0
7. Returned as active	0	(16)	0
8. Transferred to Other Fund	(1)	0	0
D. DATA ADJUSTMENTS	111	(173)	45
1. Vested	1,014		
2. Non-Vested	359		
E. TOTAL ON JUNE 30, 2003	1,373	187	826

	<u>Recipients</u>		
	<u>Retirement Annuitants</u>	<u>Disabled</u>	<u>Survivors</u>
A. ON JUNE 30, 2002	1,004	13	68
B. ADDITIONS	39	1	7
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	(19)	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	(5)	0	(1)
E. TOTAL ON JUNE 30, 2003	1,019	14	74

TABLE 8

Duluth Teachers Retirement Fund
Actuarial Balance Sheet
(dollars in thousands)

July 1, 2003

A. CURRENT ASSETS (Table 1; Line F.6)				\$	278,467
B. EXPECTED FUTURE ASSETS					
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)				\$	12,825
2. Present Value of Future Normal Costs					38,993
3. Total Expected Future Assets					<u>51,818</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$	<u>330,285</u>
D. CURRENT BENEFIT OBLIGATIONS					
		Non-Vested	Vested		Total
1. Benefit Recipients					
a. Retirement Annuities			\$ 157,550	\$	157,550
b. Disability Benefits			1,716		1,716
c. Surviving Spouse and Child Benefits			8,147		8,147
2. Deferred Retirements			12,163		12,163
3. Former Members Without Vested Rights			785		785
4. Active Members					
a. Retirement Annuities	\$	263	93,189		93,452
b. Disability Benefits		779	-		779
c. Surviving Spouse and Child Benefits		839	-		839
d. Deferred Retirements		41	3,301		3,342
e. Refund Liability Due to Death or Withdrawal		-	671		671
5. Total Current Benefit Obligations	\$	1,922	\$ 277,522	\$	<u>279,444</u>
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$	<u>50,658</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$	<u>330,102</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D.5 - A)				\$	977
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F - C)				\$	(183)

TABLE 9

Duluth Teachers Retirement Fund
Determination of Unfunded Actuarial Accrued Liability (UAAL) and
Supplemental Contribution Rate

(dollars in thousands)

July 1, 2003

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Benefits	\$ 140,656	\$ 32,831	\$ 107,825
b. Disability Benefits	1,229	467	762
c. Surviving Spouse and Child Benefits	1,352	524	828
d. Deferred Retirements	5,292	3,805	1,487
e. Refund Liability Due to Death or Withdrawal	1,212	1,366	(154)
f. Total	<u>\$ 149,741</u>	<u>\$ 38,993</u>	<u>\$ 110,748</u>
2. Deferred Retirements	\$ 12,163		\$ 12,163
3. Former Members Without Vested Rights	785		785
4. Annuitants in MPRIF	-		-
5. Annuitants Not in MPRIF	167,413		167,413
6. Total	<u><u>\$ 330,102</u></u>	<u><u>\$ 38,993</u></u>	<u><u>\$ 291,109</u></u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. Actuarial Accrued Liability (A.6)			\$ 291,109
2. Current Assets (Table 1; Line F.6)			278,467
3. Unfunded Actuarial Accrued Liability (B.1 - B.2)			<u><u>\$ 12,642</u></u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of June 30, 2032			964,299
2. Supplemental Contribution Rate (B.3 / C.1)			<u><u>1.31%</u></u>

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

June 30, 2003

A. UAAL AT BEGINNING OF YEAR	\$ (1,087)
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$ 5,026
2. Contributions	(6,232)
3. Interest	70
4. Total	<u>\$ (1,136)</u>
C. EXPECTED UAAL AT END OF YEAR (A. + B.4)	\$ (2,223)
D. INCREASE / (DECREASE) DUE TO ACTUARIAL LOSSES / (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Age and Service Retirements *	\$ -
2. Disability Retirements *	-
3. Death-in-Service Benefits *	-
4. Withdrawal *	-
5. Salary Increases	1,296
6. Contribution Income *	-
7. Investment Income	14,193
8. Mortality of Annuitants	(1,290)
9. Other Items	666
10. Total	<u>\$ 14,865</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.10)	\$ 12,642
F. CHANGE IN UAAL DUE TO PLAN AMENDMENTS	-
G. CHANGE IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	<u>-</u>
H. UAAL AT END OF YEAR (E + F + G)	<u><u>\$ 12,642</u></u>

* Included in Item D.9.

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

July 1, 2003

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	5.50%	\$ 2,913
2. Employer Contributions	5.79%	3,067
3. Supplemental Contributions *	0.00%	-
4. Total	11.29%	\$ 5,980
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.72%	\$ 4,088
b. Disability Benefits	0.10%	55
c. Surviving Spouse and Child Benefits	0.12%	62
d. Deferred Retirements	0.86%	458
e. Refund Liability Due to Death or Withdrawal	0.28%	149
f. Total	9.08%	\$ 4,812
2. Supplemental Contribution Amortization	1.31%	694
3. Allowance for Administrative Expenses	0.88%	466
4. Total	11.27%	\$ 5,972
C. CONTRIBUTION SUFFICIENCY / (DEFICIENCY) (A.4 - B.4)	0.02%	8
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 52,972

* Supplemental Contributions terminated effective June 30, 2002

Duluth Teachers Retirement Fund

Summary of Actuarial Assumptions and Methods

Interest:	Pre-Retirement: 8.5% per annum Post-Retirement: 8.5% per annum						
Salary Increases:	Reported salary for prior fiscal year, with new hires annualized, increased to current fiscal year and annually for each future year according to the ultimate rate table below. During a 10-year select period, $0.3\% \times (10-T)$ where T is completed years of service is added to the ultimate rate.						
Mortality:	Pre-Retirement: Male - 1983 GAM (Males -10) Female - 1983 GAM (Females -7) Post-Retirement: Male - 1983 GAM (Males -2) Female - 1983 GAM (Females) Post-Disability: Male - 1977 RRB Female - 1977 RRB						
Retirement Age:	Age-related from 15% to 80% for the old plan and age-related from 10% to 80% for the new plan. In addition, 40% of the Members are assumed to retire each year that they are eligible for Rule of 90.						
Separation:	Select and ultimate rates are based on recent plan experience. Ultimate rates after the third year are shown in the rate table. Select rates are as follows: <table> <tr> <td>First Year</td><td>40%</td></tr> <tr> <td>Second Year</td><td>10%</td></tr> <tr> <td>Third Year</td><td>6%</td></tr> </table>	First Year	40%	Second Year	10%	Third Year	6%
First Year	40%						
Second Year	10%						
Third Year	6%						
Disability:	Rates as shown in rate table.						

TABLE 12
(Continued)

<i>Allowance for Combined Service Annuity:</i>	10.0% load on liabilities for active Members and 10.0% load on liabilities for former Members.				
<i>Expenses:</i>	Prior year administrative expenses expressed as 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 Members are assumed to be married. Female is three years younger than male.				
<i>Social Security:</i>	N/A				
<i>Benefit Increases After Retirement:</i>	N/A				
<i>Special Consideration:</i>	<p>Annual 2% increase for annuitants is accounted for by using a 6.5% post-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> <table> <tr> <td>Males -</td><td>35% elect 50% J&S option 55% elect 100% J&S option</td></tr> <tr> <td>Females -</td><td>25% elect 50% J&S option 25% elect 100% J&S option</td></tr> </table>	Males -	35% elect 50% J&S option 55% elect 100% J&S option	Females -	25% elect 50% J&S option 25% elect 100% J&S option
Males -	35% elect 50% J&S option 55% elect 100% J&S option				
Females -	25% elect 50% J&S option 25% elect 100% J&S option				
<i>Actuarial Cost Method:</i>	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.				
<i>Asset Valuation Method:</i>	On and after July 1, 2000, Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between				

actual net return on Market Value of Assets and the asset return expected during the fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.

***Payment on the
Unfunded Actuarial
Accrued Liability:***

A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

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>Ultimate Rate of Salary Increases</u>
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Old</u>	<u>New</u>	
20	3	1	350	350	0	0	0	0	6.90%
21	3	1	345	345	0	0	0	0	6.90
22	3	1	340	340	0	0	0	0	6.90
23	3	1	335	335	0	0	0	0	6.85
24	3	2	330	330	0	0	0	0	6.80
25	3	2	325	325	0	0	0	0	6.75
26	3	2	320	320	0	0	0	0	6.70
27	3	2	315	315	0	0	0	0	6.65
28	4	2	310	310	0	0	0	0	6.60
29	4	2	305	305	0	0	0	0	6.55
30	4	2	300	300	0	0	0	0	6.50
31	4	2	295	295	0	0	0	0	6.45
32	4	3	290	290	0	0	0	0	6.40
33	4	3	285	285	0	0	0	0	6.35
34	4	3	280	280	0	0	0	0	6.30
35	5	3	275	275	1	1	0	0	6.25
36	5	3	270	270	1	1	0	0	6.20
37	5	3	265	265	1	1	0	0	6.15
38	5	4	260	260	1	1	0	0	6.10
39	6	4	255	255	1	1	0	0	6.05
40	6	4	250	250	3	3	0	0	6.00
41	6	4	240	240	3	3	0	0	5.90
42	7	5	230	230	3	3	0	0	5.80
43	7	5	220	220	3	3	0	0	5.70
44	8	5	210	210	3	3	0	0	5.60
45	9	6	200	200	6	6	0	0	5.50
46	9	6	190	190	6	6	0	0	5.40
47	10	7	180	180	6	6	0	0	5.30
48	10	7	170	170	6	6	0	0	5.20
49	11	8	160	160	6	6	0	0	5.10

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>Ultimate Rate of Salary Increases</u>
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Old</u>	<u>New</u>	
50	12	8	150	150	10	10	0	0	5.00%
51	14	9	135	135	10	10	0	0	5.00
52	15	10	120	120	10	10	0	0	5.00
53	17	11	105	105	10	10	0	0	5.00
54	19	12	90	90	10	10	0	0	5.00
55	22	14	75	75	15	15	1,500	1,000	5.00
56	25	15	60	60	15	15	1,500	1,000	5.00
57	28	16	45	45	15	15	1,500	1,000	5.00
58	31	18	30	30	15	15	1,500	1,000	5.00
59	35	19	15	15	15	15	1,500	1,000	5.00
60	39	21	0	0	21	21	1,500	1,000	5.00
61	43	23	0	0	21	21	4,000	2,000	5.00
62	48	25	0	0	21	21	4,000	2,000	5.00
63	52	28	0	0	21	21	4,000	2,000	5.00
64	57	31	0	0	21	21	4,000	2,000	5.00
65	61	34	0	0	0	0	4,000	2,000	5.00
66	66	38	0	0	0	0	5,000	4,000	5.00
67	71	42	0	0	0	0	5,000	4,000	5.00
68	77	47	0	0	0	0	5,000	4,000	5.00
69	84	52	0	0	0	0	5,000	4,000	5.00
70	92	58	0	0	0	0	5,000	4,000	5.00

**TABLE 3A
OLD**

**Duluth Teachers Retirement Fund
ACTIVE MEMBERS AS OF JUNE 30, 2003**

<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	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	1	6	17	1	0	25
50-54	0	0	2	3	5	35	44	25	114
55-59	0	0	0	0	3	21	29	47	100
60-64	0	0	0	0	4	3	3	8	18
65+	0	0	0	0	0	2	0	0	2
ALL	0	0	2	4	18	78	77	80	259

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	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	23,573	47,160	56,231	63,807	0	53,051
50-54	0	0	31,025	30,693	46,834	55,812	58,440	62,486	56,800
55-59	0	0	0	0	56,508	54,779	61,735	61,528	60,020
60-64	0	0	0	0	48,976	58,600	58,357	55,280	54,945
65+	0	0	0	0	0	56,481	0	0	56,481
ALL	0	0	31,025	28,913	49,031	55,750	59,747	61,203	57,549

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

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	0	0	62	116	883	4,349	4,601	4,896	14,905

TABLE 4A
OLD

Duluth Teachers Retirement Fund
Service Retirements as of June 30, 2003

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	0	0	1	0	0	0	0	1
55-59	4	29	1	1	0	0	0	35
60-64	3	41	32	1	0	0	0	77
65-69	0	5	42	38	0	0	1	86
70-74	0	0	6	26	20	0	0	52
75-79	0	0	0	2	36	24	0	62
80-84	0	0	0	0	13	40	11	64
85+	0	0	0	0	1	19	65	85
ALL	7	75	82	68	70	83	77	462

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	0	0	13,244	0	0	0	0	13,244
55-59	16,062	18,231	10,059	19,642	0	0	0	17,790
60-64	11,202	15,675	15,096	9,260	0	0	0	15,177
65-69	0	13,795	10,214	14,881	0	0	7,659	12,455
70-74	0	0	5,726	15,315	9,194	0	0	11,854
75-79	0	0	0	7,321	12,297	6,234	0	9,790
80-84	0	0	0	0	10,365	10,448	6,313	9,721
85+	0	0	0	0	1,269	9,490	9,937	9,735
ALL	13,979	16,538	11,826	14,812	10,894	9,010	9,390	12,010

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	98	1,240	970	1,007	763	748	723	5,549

TABLE 5A
OLD

Duluth Teachers Retirement Fund
Survivors as of June 30, 2003

<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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	1	0	0	1
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	2	0	0	0	2
65-69	0	0	2	2	0	0	0	4
70-74	0	0	0	1	2	1	0	4
75-79	0	0	0	0	4	4	1	9
80-84	0	0	0	0	0	4	1	5
85+	0	0	0	0	0	1	6	7
ALL	0	0	2	5	7	10	8	32

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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	4,780	0	0	4,780
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	22,361	0	0	0	22,361
65-69	0	0	2,429	12,037	0	0	0	7,233
70-74	0	0	0	2,659	11,753	15,928	0	10,523
75-79	0	0	0	0	17,366	14,432	5,679	14,763
80-84	0	0	0	0	0	8,639	9,095	8,730
85+	0	0	0	0	0	14,868	8,300	9,238
ALL	0	0	2,429	14,291	13,964	12,308	8,072	11,304

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	0	0	5	71	98	123	65	362

TABLE 6A
OLD

Duluth Teachers Retirement Fund
Disability Retirements as of June 30, 2003

<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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	1	0	0	1
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0	1	0	0	1

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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	12,662	0	0	12,662
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0	12,662	0	0	12,662

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	0	0	0	0	13	0	0	13

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

July 1, 2003

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	5.50%	\$ 858
2. Employer Contributions	5.79%	903
3. Total	11.29%	\$ 1,761
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.34%	\$ 1,145
b. Disability Benefits	0.09%	14
c. Surviving Spouse and Child Benefits	0.11%	17
d. Deferred Retirements	1.08%	169
e. Refund Liability Due to Death or Withdrawal	0.35%	55
f. Total	8.97%	\$ 1,400
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 15,600

Duluth Teachers Retirement Fund
Summary of Plan Provisions

This summary of provisions reflects the interpretation of applicable Statutes by the Commission Actuary for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with any Minnesota Statutes.

GENERAL

<i>Eligibility:</i>	A licensed teacher who is employed by the Duluth Public Schools other than a charter school, and eligible licensed staff at Lake Superior College, who have elected to retain their membership in the DTRFA. Also includes any employees of the Retirement Fund and certain part-time employees licensed by the Department of Education. Employees in the Old Plan are those first hired before July 1, 1981.
<i>Contributions:</i>	
<i>Member:</i>	5.5% of salary.
<i>Employer:</i>	5.79% of salary.
<i>Credited Service:</i>	Earned while employed in a covered position and employee contributions are deducted. Credit is granted for service less than a legal school year on a pro rata basis.
<i>Salary:</i>	Annual contract salary.
<i>Average Salary:</i>	Average of the five highest years of annual salary.

RETIREMENT

Normal Retirement Benefit:

<i>Eligibility:</i>	Age 60 and one year of Credited Service.
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Amount: The greater of
1.45% of Average Salary for each year of Credited Service
or
the New Plan Benefit.

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
1.45% 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
the New Plan Benefit.

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: Annual Cost-of-Living Adjustment (COLA):
Increase all benefits by 2% each January 1. An additional
increase will be allowed when the 5-year average rate of
return of the fund exceeds the interest rate assumption of
the plan, currently 8.5%. To be eligible for a COLA, a
retiree or beneficiary must have received a payment for at
least 12 months as of the adjustment date.

There are a small number of Members retired prior to
June 30, 1971 who receive an additional amount each
year paid monthly.

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.

TABLE 3B
NEW

Duluth Teachers Retirement Fund
ACTIVE MEMBERS AS OF JUNE 30, 2003

<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	24	4	0	0	0	0	0	0	28
25-29	61	57	14	0	0	0	0	0	132
30-34	42	52	60	2	0	0	0	0	156
35-39	16	41	51	27	1	0	0	0	136
40-44	14	28	36	31	33	1	0	0	143
45-49	18	45	48	36	51	3	0	0	201
50-54	15	29	40	47	69	10	0	0	210
55-59	12	9	12	18	25	2	0	0	78
60-64	4	4	6	2	3	2	0	0	21
65+	4	1	1	0	3	0	0	0	9
ALL	210	270	268	163	185	18	0	0	1,114

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	2,119	25,452	0	0	0	0	0	0	5,452
25-29	3,267	21,756	35,887	0	0	0	0	0	14,711
30-34	4,530	25,860	37,106	56,016	0	0	0	0	24,829
35-39	6,018	28,167	39,719	42,584	61,745	0	0	0	33,002
40-44	3,874	23,889	35,958	48,880	51,248	54,881	0	0	36,916
45-49	3,565	22,833	41,899	47,498	54,931	52,110	0	0	38,659
50-54	3,429	28,952	41,804	49,475	56,973	57,197	0	0	44,722
55-59	3,007	31,157	46,648	48,198	56,305	64,138	0	0	42,048
60-64	4,221	4,358	38,640	47,574	55,052	35,136	0	0	28,416
65+	3,914	26,508	48,285	0	41,070	0	0	0	23,740
ALL	3,691	24,822	39,448	47,700	55,035	54,541	0	0	33,202

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

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	775	6,702	10,572	7,775	10,182	982	0	0	36,987

TABLE 4B
NEW

Duluth Teachers Retirement Fund
Service Retirements as of June 30, 2003

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	1	0	0	0	0	1
50-54	0	0	0	0	0	0	0	0
55-59	12	34	1	0	0	0	0	47
60-64	10	76	44	1	0	0	0	131
65-69	1	33	37	56	0	0	0	127
70-74	0	5	28	84	33	0	0	150
75-79	0	1	4	31	40	0	0	76
80-84	0	0	0	3	14	6	0	23
85+	0	0	0	1	0	1	0	2
ALL	23	149	115	176	87	7	0	557

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>Years Retired</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	6,290	0	0	0	0	6,290
50-54	0	0	0	0	0	0	0	0
55-59	30,684	26,287	5,432	0	0	0	0	26,966
60-64	14,794	24,103	23,175	14,846	0	0	0	23,010
65-69	16,795	14,859	20,034	16,903	0	0	0	17,283
70-74	0	11,147	13,450	19,225	15,475	0	0	17,053
75-79	0	958	17,558	19,548	17,000	0	0	17,857
80-84	0	0	0	10,497	11,592	16,200	0	12,651
85+	0	0	0	8,927	0	20,729	0	14,828
ALL	23,172	21,964	19,300	18,311	15,551	16,847	0	19,243

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	533	3,273	2,219	3,223	1,353	118	0	10,719

TABLE 5B
NEW

Duluth Teachers Retirement Fund
Survivors as of June 30, 2003

<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	0	0	4	2	2	0	0	8
50-54	0	1	0	0	0	0	0	1
55-59	0	0	0	0	0	0	0	0
60-64	0	1	3	0	0	0	0	4
65-69	0	0	1	6	0	0	0	7
70-74	0	2	0	5	5	0	0	12
75-79	0	0	0	2	6	0	0	8
80-84	0	0	1	0	0	1	0	2
85+	0	0	0	0	0	0	0	0
ALL	0	4	9	15	13	1	0	42

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	0	0	449	9,841	10,985	0	0	5,431
50-54	0	2,620	0	0	0	0	0	2,620
55-59	0	0	0	0	0	0	0	0
60-64	0	32,927	20,457	0	0	0	0	23,575
65-69	0	0	23,304	18,370	0	0	0	19,075
70-74	0	20,625	0	10,636	14,559	0	0	13,935
75-79	0	0	0	17,756	16,191	0	0	16,582
80-84	0	0	1,777	0	0	18,913	0	10,345
85+	0	0	0	0	0	0	0	0
ALL	0	19,199	9,805	14,573	14,762	18,913	0	14,154

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	0	77	88	219	192	19	0	594

TABLE 6B
NEW

Duluth Teachers Retirement Fund
Disability Retirements as of June 30, 2003

<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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	4	2	0	0	0	6
60-64	0	4	1	1	0	0	0	6
65-69	0	0	1	0	0	0	0	1
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	4	6	3	0	0	0	13

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	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	7,711	13,791	0	0	0	9,738
60-64	0	14,664	29,331	16,770	0	0	0	17,460
65-69	0	0	3,248	0	0	0	0	3,248
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	14,664	10,571	14,784	0	0	0	12,802

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	0	59	63	44	0	0	0	166

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

July 1, 2003

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	5.50%	\$ 2,055
2. Employer Contributions	5.79%	2,164
3. Total	11.29%	\$ 4,219
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.87%	\$ 2,943
b. Disability Benefits	0.11%	41
c. Surviving Spouse and Child Benefits	0.12%	45
d. Deferred Retirements	0.77%	289
e. Refund Liability Due to Death or Withdrawal	0.25%	94
f. Total	9.12%	\$ 3,412
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 37,372

Duluth Teachers Retirement Fund

Summary of Plan Provisions

This summary of provisions reflects the interpretation of applicable Statutes by the Commission Actuary for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with any Minnesota Statutes.

GENERAL

<i>Eligibility:</i>	A licensed teacher who is employed by the Duluth Public Schools other than a charter school, and eligible licensed staff at Lake Superior College, who have elected to retain their membership in DTRFA. Also includes any employees of the Retirement Fund and certain part-time employees licensed by the 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.
<i>Contributions:</i>	
<i>Member:</i>	5.5% of salary.
<i>Employer:</i>	5.79% of salary.
<i>Allowable Service:</i>	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.
<i>Salary:</i>	Total compensation. Excludes any lump-sum annual leave or sick leave payments and lump-sum payment at separation.
<i>Average Salary:</i>	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

RETIREMENT

Normal Retirement Benefit:

<i>Eligibility:</i>	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 but not higher than age 66 and three years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.
<i>Amount:</i>	Hired before July 1, 1989: The greater of 1.2% of Average Salary for each of the first 10 years of Allowable Service and 1.7% of Average Salary for each subsequent year. or 1.7% of Average Salary for each year of Allowable Service.
	Hired after June 30, 1989: 1.7% of Average Salary for each year of Allowable Service.

Early Retirement Benefit:

<i>Eligibility:</i>	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 1.2% of Average Salary for the first 10 years of Allowable Service and 1.7% of Average Salary for each subsequent year with reduction of 0.25% for each month the Member is under age 65 at time of retirement (age 62 if 30 years of Allowable service). No reduction if age plus years of Allowable Service totals 90.

or

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

Hired after June 30, 1989:

1.7% 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: Annual Cost-of-Living Adjustment (COLA):

Increase all benefits by 2% each January 1. An additional increase will be allowed when the 5-year average rate of return of the fund exceeds the interest rate assumption of the plan, currently 8.5%. To be eligible for a COLA, a retiree or beneficiary must have received a payment for at least 12 months as of the adjustment date.

DISABILITY

Disability Benefit:

Eligibility: Totally and permanently disabled under normal retirement age 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:

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

Benefit Increases: Same as for retirement.

Refund of Member's Contributions:

<i>Eligibility:</i>	Member or former Member dies before receiving any disability or retirement benefits and survivor benefits are not payable.
<i>Amount:</i>	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:

<i>Eligibility:</i>	Termination from teaching service.
<i>Amount:</i>	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.

Duluth Teachers Retirement Fund
Schedule of Funding Progress
(dollars in thousands)

July 1, 2003

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (B)	Unfunded AAL (UAAL) (B)-(A)	Funded Ratio (A)/(B)	Actual Covered Payroll (Previous FY) (C)	UAAL as % of Covered Payroll ((B)-(A))/(C)
07/01/91	\$ 105,087	\$ 117,582	\$ 12,495	89.37%	\$ 42,297	29.54%
07/01/92	116,492	124,140	7,648	93.84%	42,884	17.83%
07/01/93	130,856	132,700	1,844	98.61%	43,282	4.26%
07/01/94	133,632	137,042	3,410	97.51%	43,109	7.91%
07/01/95	142,852	173,965	31,113	82.12%	46,528	66.87%
07/01/96	157,007	189,518	32,511	82.85%	44,870	72.46%
07/01/97	170,059	197,820	27,761	85.97%	46,770	59.36%
07/01/98	187,482	197,078	9,596	95.13%	47,064	20.39%
07/01/99	218,699	220,540	1,841	99.17%	52,176	3.53%
07/01/00	251,007	241,899	(9,108)	103.77%	52,270	-17.42%
07/01/01	273,618	254,255	(19,363)	107.62%	51,996	-37.24%
07/01/02	280,515	279,428	(1,087)	100.39%	51,054	-2.13%
07/01/03	278,467	291,109	12,642	95.66%	50,656	24.96%

Duluth Teachers Retirement Fund
Schedule of Employer Contributions
(dollars in thousands)

July 1, 2003

Year Ended June 30	Actuarially Required Contribution Rate (A)	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contributions [(A)*(B)]-(C)	Actual Employer Contributions ⁽¹⁾	Percentage Contributed
1991	10.70%	\$ 42,297	\$ 2,043	\$ 2,483	\$ 2,449	98.63%
1992	11.09%	42,884	2,124	2,632	2,483	94.34%
1993	11.42%	43,282	2,126	2,817	2,506	88.96%
1994	10.21%	43,109	2,230	2,171	2,496	114.97%
1995	10.36%	46,528	2,144	2,676	2,694	100.67%
1996	13.23%	44,870	2,570	3,366	2,598	77.18%
1997	13.60%	46,770	2,644	3,717	2,708	72.85%
1998	12.87%	47,064	2,664	3,393	3,211	94.64%
1999	10.24%	52,176	3,118	2,225	3,507	157.62%
2000	9.16%	52,270	3,152	1,636	3,512	214.67%
2001	8.51%	51,996	3,141	1,284	3,497	272.35%
2002	7.49%	51,054	3,275	549	3,442	626.96%
2003	9.85% ⁽²⁾	50,656	3,299	1,691	2,933	173.45%

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

⁽²⁾ Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Plan Provisions is 7.62%.