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

July 1, 1996



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November 12, 1996

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, 1996.

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,

MILLIMAN & ROBERTSON, INC.

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Duluth Teachers' Retirement Fund

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Duluth Teachers' Retirement Fund

Report Highlights

(dollars in thousands)

	07/01/95 Valuation	07/01/96 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 353 % of Payroll	11.29%	11.29%
2. Required Contributions - Chapter 356 % of Payroll	13.23%	13.60%
3. Sufficiency (Deficiency): (A.1. - A.2.)	-1.94%	-2.31%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$142,852	\$157,007
b. Current Benefit Obligations (Table 8)	\$161,524	\$177,291
c. Funding Ratio: (a/b)	88.44%	88.56%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$142,852	\$157,007
b. Actuarial Accrued Liability (Table 9)	\$173,965	\$189,518
c. Funding Ratio: (a/b)	82.12%	82.85%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$196,994	\$207,788
b. Current and Expected Future Benefit Obligations	\$215,192	\$227,968
c. Funding Ratio: (a/b)	91.54%	91.15%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	1,512	1,415
b. Projected Annual Earnings	\$48,465	\$46,770
c. Average Annual Earnings (Actual \$)	\$32,054	\$33,053
d. Average Age	43.9	44.3
e. Average Service	10.5	11.2
2. Others		
a. Service Retirements (Table 4)	788	805
b. Survivors (Table 5)	46	47
c. Disability Retirements (Table 6)	7	8
d. Deferred Retirements (Table 7)	122	150
e. Terminated Other Non-vested (Table 7)	561	609
f. Total	1,524	1,619

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 88.56%. The corresponding ratio for the prior year was 88.44%.
- ° 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 1996 the ratio is 82.85%, which is an increase from the 1995 value of 82.12%.
- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 91.15% 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.

Reference to the Minnesota Post Retirement Investment Fund (MPRIF) is for purposes of consistency. This fund does not participate in the MPRIF and therefore, where the term MPRIF appears, there will be a value of zero.

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

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

GASB Disclosure

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

The JULY 1, 1996 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	\$91,985,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$31,883,000
Employer-financed vested	44,395,000
Employer-financed nonvested	<u>9,028,000</u>
Total Pension Benefit Obligation	\$177,291,000
Net Assets Available for Benefits at Cost	\$148,337,000
Total Benefit Obligation less Assets	\$28,954,000
Funded Ratio	83.67%

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.

The payments will increase 6.50% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For 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 11.29% compared to the Required Contribution Rate of 13.60%.

Changes in Actuarial Assumptions

This report does not reflect any change in actuarial assumptions since the last valuation. Based on a recent experience study, a recommended set of revised assumptions has been developed. Adoption of the new assumptions is expected for use in the July 1, 1997 actuarial valuation. Based on earlier studies, it is expected that use of the recommended revised assumptions will result in significantly lower required contributions.

Changes in Plan Provisions

This report reflects no changes in plan provisions since the last valuation.

TABLE 1

Duluth Teachers' Retirement Fund

Accounting Balance Sheet
(dollars in thousands)

JULY 1, 1996

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS		
1. Cash, Equivalents, Short-term Securities	\$5,343	\$5,343
2. Investments		
a. Fixed Income	72,668	72,694
b. Equity	104,685	78,648
c. Real Estate	1,935	1,935
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
4. Other	<u>2,956</u>	<u>2,956</u>
B. TOTAL ASSETS	<u><u>\$187,587</u></u>	<u><u>\$161,576</u></u>
C. AMOUNTS CURRENTLY PAYABLE	\$13,239	\$13,239
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$21,215	\$21,215
2. Employer Reserves	153,133	127,122
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	<u>0</u>	<u>0</u>
5. Total Assets Available for Benefits	<u>\$174,348</u>	<u>\$148,337</u>
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	<u><u>\$187,587</u></u>	<u><u>\$161,576</u></u>
<hr/>		
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$148,337
2. Market Value (D5)	\$174,348	
3. Cost Value (D5)	<u>148,337</u>	
4. Market Over Cost: (F2-F3)	\$26,011	
5. 1/3 of Market Over Cost: (F4)/3		<u>8,670</u>
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		<u><u>\$157,007</u></u>

TABLE 2

Duluth Teachers' Retirement Fund

Change In Assets Available For Benefits
(dollars in thousands)

YEAR ENDING JUNE 30, 1996

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$156,768	\$135,892
B. OPERATING REVENUES		
1. Member Contributions	\$2,570	\$2,570
2. Employer Contributions	2,598	2,598
3. Investment Income	5,309	5,309
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	11,862	11,862
6. Other	75	75
7. Net Change in Unrealized Gain (Loss)	<u>5,135</u>	<u>0</u>
8. Total Revenue	<u>\$27,549</u>	<u>\$22,414</u>
C. OPERATING EXPENSES		
1. Service Retirements	\$8,287	\$8,287
2. Disability Benefits	99	99
3. Survivor Benefits	411	411
4. Refunds	29	29
5. Investment Fees	804	804
6. Administrative Expenses	339	339
7. Other	<u>0</u>	<u>0</u>
8. Total Disbursements	<u>\$9,969</u>	<u>\$9,969</u>
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	<u><u>\$174,348</u></u>	<u><u>\$148,337</u></u>

TABLE 3

DULUTH TEACHERS' RETIREMENT FUND
ACTIVE MEMBERS AS OF JUNE 30, 1996

<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	33	4	0	0	0	0	0	0	37
25-29	67	39	6	0	0	0	0	0	112
30-34	24	42	35	7	0	0	0	0	108
35-39	23	39	40	40	0	0	0	0	142
40-44	25	45	48	61	39	6	0	0	224
45-49	33	41	60	55	47	71	25	0	332
50-54	14	19	19	30	19	48	87	18	254
55-59	6	11	10	17	21	30	34	25	154
60-64	4	3	5	6	10	8	4	3	43
65+	2	1	1	2	0	1	0	2	9
ALL	231	244	224	218	136	164	150	48	1,415

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	2,336	18,365	0	0	0	0	0	0	4,069
25-29	2,950	18,895	25,615	0	0	0	0	0	9,717
30-34	2,413	20,758	26,599	33,306	0	0	0	0	19,388
35-39	1,659	21,126	27,827	36,889	0	0	0	0	24,301
40-44	3,421	19,506	32,689	41,772	43,853	38,355	0	0	31,343
45-49	2,432	19,846	34,815	43,222	44,412	46,545	48,925	0	36,070
50-54	1,622	17,637	39,052	38,296	40,032	45,360	47,011	48,718	39,974
55-59	1,703	22,968	31,708	43,547	44,245	42,552	46,609	47,386	40,879
60-64	924	3,235	25,330	35,919	37,992	45,899	50,066	47,663	33,626
65+	37	4,275	34,839	23,007	0	47,729	0	47,404	25,304
ALL	2,482	19,669	31,591	40,297	43,142	45,144	47,320	47,904	31,026

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	573	4,799	7,076	8,784	5,867	7,403	7,098	2,299	43,901

TABLE 4

DULUTH TEACHERS' RETIREMENT FUND**SERVICE RETIREMENTS AS OF JUNE 30, 1996**

<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	1	1	0	0	0	0	0	2
50-54	2	0	1	0	0	0	0	3
55-59	20	42	0	0	0	0	0	62
60-64	10	116	41	0	0	0	1	168
65-69	3	47	106	47	1	0	0	204
70-74	0	6	29	76	15	0	0	126
75-79	0	0	4	44	29	11	4	92
80-84	0	0	0	2	39	23	0	64
85+	0	0	0	0	3	41	40	84
ALL	36	212	181	169	87	75	45	805

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	4,055	8,539	0	0	0	0	0	6,297
50-54	2,498	0	12,664	0	0	0	0	5,887
55-59	19,377	16,901	0	0	0	0	0	17,700
60-64	13,786	14,968	10,147	0	0	0	7,557	13,677
65-69	9,050	10,989	9,172	7,878	4,104	0	0	9,266
70-74	0	12,550	9,325	8,357	4,025	0	0	8,264
75-79	0	0	4,826	7,216	6,152	3,922	4,865	6,281
80-84	0	0	0	3,609	6,850	5,611	0	6,304
85+	0	0	0	0	5,233	7,489	8,100	7,699
ALL	15,600	14,370	9,341	7,871	6,043	6,390	7,800	9,919

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	561	3,046	1,690	1,330	525	479	351	7,984

DULUTH TEACHERS' RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1996

Age	YEARS SINCE DEATH							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	1	0	0	0	1
50-54	0	0	0	0	0	0	0	0
55-59	1	2	1	0	0	0	0	4
60-64	0	1	4	2	0	0	0	7
65-69	0	0	4	2	0	0	0	6
70-74	0	1	0	4	4	0	0	9
75-79	0	0	0	2	4	2	0	8
80-84	0	0	0	1	2	3	0	6
85+	0	0	0	0	1	3	2	6
ALL	1	4	9	12	11	8	2	47

AVERAGE ANNUAL BENEFIT

Age	YEARS SINCE DEATH							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	3,082	0	0	0	3,082
50-54	0	0	0	0	0	0	0	0
55-59	15,560	18,408	11,638	0	0	0	0	16,004
60-64	0	817	14,740	7,124	0	0	0	10,575
65-69	0	0	9,743	6,067	0	0	0	8,518
70-74	0	1,146	0	12,278	8,108	0	0	9,188
75-79	0	0	0	9,749	6,733	5,121	0	7,084
80-84	0	0	0	9,665	6,971	6,067	0	6,968
85+	0	0	0	0	2,908	8,932	6,393	7,082
ALL	15,560	9,695	12,174	8,978	6,929	6,905	6,393	8,849

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	15,560	38,780	109,566	107,736	76,219	55,240	12,786	415,903

TABLE 6

DULUTH TEACHERS' RETIREMENT FUND**DISABILITY RETIREMENTS AS OF JUNE 30, 1996**

<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	1	1	1	0	0	0	0	3
50-54	0	1	0	1	0	0	0	2
55-59	0	0	0	0	0	0	0	0
60-64	0	0	1	0	0	1	0	2
65-69	0	1	0	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	1	3	2	1	0	1	0	8

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	8,472	15,820	1,964	0	0	0	0	8,752
50-54	0	10,812	0	8,164	0	0	0	9,488
55-59	0	0	0	0	0	0	0	0
60-64	0	0	20,846	0	0	4,938	0	12,892
65-69	0	14,850	0	0	0	0	0	14,850
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	8,472	13,827	11,405	8,164	0	4,938	0	10,733

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) 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	8,472	41,481	22,810	8,164	0	4,938	0	85,864

TABLE 7

Duluth Teachers' Retirement Fund

Reconciliation Of Members

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1995	1,512	122	561
B. ADDITIONS	158	201	48
C. DELETIONS			
1. Service Retirement	(29)	(17)	0
2. Disability	(2)	0	0
3. Death	0	0	0
4. Terminated - Deferred	(201)	0	0
5. Terminated - Refund	(22)	(119)	0
6. Terminated - Other Non-Vested	0	0	0
7. Returned as Active	0	(13)	0
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	(1)	(24)	0
Vested	1,019		
Non-Vested	396		
E. TOTAL ON JUNE 30, 1996	1,415	150	609

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1995	788	7	46
B. ADDITIONS	48	2	5
C. DELETIONS			
1. Service Retirement	0	(1)	0
2. Death	(22)	0	(4)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	(9)	0	0
E. TOTAL ON JUNE 30, 1996	805	8	47

Duluth Teachers' Retirement Fund

Actuarial Balance Sheet*(dollars in thousands)*

JULY 1, 1996

A.	CURRENT ASSETS (TABLE 1, F6)			\$157,007
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			\$12,331
	2. Present Value of Future Normal Costs			38,450
	3. Total Expected Future Assets			<u>\$50,781</u>
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			<u>\$207,788</u>
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		\$83,255	\$83,255
	b. Disability Benefits		1,104	1,104
	c. Surviving Spouse and Child Benefits		4,051	4,051
	2. Deferred Retirements with Future Augmentation		3,248	3,248
	3. Former Members without Vested Rights		327	327
	4. Active Members			
	a. Retirement Annuities	206	72,529	72,735
	b. Disability Benefits	7,093	0	7,093
	c. Survivor's Benefits	1,705	0	1,705
	d. Deferred Retirements	24	3,215	3,239
	e. Refund Liability Due to Death or Withdrawal	0	534	534
	5. Total Current Benefit Obligations	<u>\$9,028</u>	<u>\$168,263</u>	<u>\$177,291</u>
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$50,677</u>
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$227,968</u>
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			\$20,284
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			\$20,180

Duluth Teachers' Retirement Fund

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

JULY 1, 1996

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$116,151	\$28,250	\$87,901
b. Disability Benefits	11,445	4,124	7,321
c. Survivor's Benefit	2,737	1,052	1,685
d. Deferred Retirements	4,616	3,659	957
e. Refunds Due to Death or Withdrawal	1,034	1,365	(331)
f. Total	<u>\$135,983</u>	<u>\$38,450</u>	<u>\$97,533</u>
2. Deferred Retirements With Future Augmentation	3,248		3,248
3. Former Members Without Vested Rights	327		327
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	<u>88,410</u>		<u>88,410</u>
6. Total	<u>\$227,968</u>	<u>\$38,450</u>	<u>\$189,518</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$189,518
2. Current Assets (Table 1, F6)			<u>157,007</u>
3. UAAL (B1-B2)			<u>\$32,511</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			\$874,515
2. Supplemental Contribution Rate (B3/C1)			3.72%

Duluth Teachers' Retirement Fund

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

YEAR ENDING JUNE 30, 1996

A. UAAL AT BEGINNING OF YEAR	\$31,113
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$4,805
2. Contribution	(5,168)
3. Interest on A, B1 and B2	2,629
4. Total (B1+B2+B3)	\$2,266
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$33,379
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$3,402)
2. Investment Return*	(3,113)
3. MPRIF Mortality	0
4. Mortality of Other Benefit Recipients	267
5. Other Items**	5,380
6. Total	(\$868)
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$32,511
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H. UAAL AT END OF YEAR (E+F+G)	\$32,511

* Gross gain of 6,106 less p.v. of 1/1/97 excess assets to annuitants of 2,993.

** Includes a loss of 1,983 attributable to 1/1/96 excess assets to annuitants which was not reflected in 7/1/95 valuation.

Duluth Teachers' Retirement Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 1996

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	5.50%	\$2,572
2. Employer Contributions	5.79%	2,708
3. Total	11.29%	\$5,280
 B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	6.80%	\$3,181
b. Disability benefits	0.94%	441
c. Survivors	0.24%	114
d. Deferred Retirement Benefits	0.86%	401
e. Refunds Due to Death or Withdrawal	0.34%	157
f. Total	9.18%	\$4,294
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	3.72%	1,740
3. Allowance for Expenses	0.70%	327
4. Total	13.60%	\$6,361
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-2.31%	(\$1,081)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$46,770.

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 increased 6.5% to current fiscal year and 6.5% annually for each future year.
Mortality:	Pre-Retirement: Male - 1971 Group Annuity Mortality Table male rates set back 8 years Female - 1971 Group Annuity Mortality Table male rates set back 8 years Post-Retirement: Male - Same as above Female - Same as above Post-Disability: Male - Same as above Female - Same as above
Retirement Age:	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.
Separation:	Graded rates shown in rate table.
Disability:	Rates as shown in rate table.
Expenses:	Prior year administrative expenses expressed as percentage of prior year payroll.
Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Family Composition:	80% of Members are assumed to be married. Female is three years younger than male.
Social Security:	N/A

***Benefit Increases
After Retirement:***

N/A

Special Consideration:

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.

Married Members assumed to elect subsidized joint and survivor form of annuity as follows:

Males - 40% elect 50% J&S option
 40% elect 100% J&S option

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

Actuarial Cost Method:

Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.

Asset Valuation Method:

Cost Value plus one-third Unrealized Gains or Losses.

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

A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.

TABLE 12
(Continued)

Duluth Teachers' Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

<u>Age</u>	<u>Death</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	4	4	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, 1996

<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	11	38	6	0	0	55
45-49	0	0	1	2	41	71	25	0	140
50-54	0	0	0	6	18	48	87	18	177
55-59	0	0	0	5	19	30	34	25	113
60-64	0	0	1	1	10	8	4	3	27
65+	0	0	0	1	0	1	0	2	4
ALL	0	0	2	26	126	164	150	48	516

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	41,761	43,826	38,355	0	0	42,816
45-49	0	0	16,115	48,106	44,291	46,545	48,925	0	46,115
50-54	0	0	0	33,269	39,739	45,360	47,011	48,718	45,532
55-59	0	0	0	44,043	44,941	42,552	46,609	47,386	45,310
60-64	0	0	2,423	41,645	37,992	45,899	50,066	47,663	42,016
65+	0	0	0	46,014	0	47,729	0	47,404	47,138
ALL	0	0	9,269	40,887	43,099	45,144	47,320	47,904	45,180

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	18	1,063	5,430	7,403	7,098	2,299	23,312

DULUTH TEACHERS' RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1996

<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	1	0	0	0	0	0	1
50-54	0	0	1	0	0	0	0	1
55-59	10	17	0	0	0	0	0	27
60-64	6	47	25	0	0	0	0	78
65-69	0	3	34	20	1	0	0	58
70-74	0	0	12	48	15	0	0	75
75-79	0	0	1	30	29	11	4	75
80-84	0	0	0	2	39	23	0	64
85+	0	0	0	0	3	41	40	84
ALL	16	68	73	100	87	75	44	463

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	8,539	0	0	0	0	0	8,539
50-54	0	0	12,664	0	0	0	0	12,664
55-59	16,086	17,224	0	0	0	0	0	16,803
60-64	13,938	12,870	9,033	0	0	0	0	11,722
65-69	0	8,488	7,635	4,378	4,104	0	0	6,495
70-74	0	0	9,089	6,649	4,025	0	0	6,515
75-79	0	0	818	6,453	6,152	3,922	4,865	5,806
80-84	0	0	0	3,609	6,850	5,611	0	6,304
85+	0	0	0	0	5,233	7,489	8,100	7,699
ALL	15,281	13,702	8,328	6,075	6,043	6,390	7,806	8,078

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	244	931	607	607	525	479	343	3,740

TABLE 5A
OLD

DULUTH TEACHERS' RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1996

<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	1	0	0	0	1
50-54	0	0	0	0	0	0	0	0
55-59	0	1	1	0	0	0	0	2
60-64	0	0	0	0	0	0	0	0
65-69	0	0	2	2	0	0	0	4
70-74	0	0	0	0	4	0	0	4
75-79	0	0	0	1	4	2	0	7
80-84	0	0	0	1	2	3	0	6
85+	0	0	0	0	1	3	2	6
ALL	0	1	3	5	11	8	2	30

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	3,082	0	0	0	3,082
50-54	0	0	0	0	0	0	0	0
55-59	0	17,196	11,638	0	0	0	0	14,417
60-64	0	0	0	0	0	0	0	0
65-69	0	0	9,308	6,067	0	0	0	7,688
70-74	0	0	0	0	8,108	0	0	8,108
75-79	0	0	0	7,304	6,733	5,121	0	6,354
80-84	0	0	0	9,665	6,971	6,067	0	6,968
85+	0	0	0	0	2,908	8,932	6,393	7,082
ALL	0	17,196	10,085	6,437	6,929	6,905	6,393	7,463

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	17,196	30,255	32,185	76,219	55,240	12,786	223,890

DULUTH TEACHERS' RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1996

Age	YEARS DISABLED							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	1	0	0	0	1
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	1	0	1
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	1	0	1	0	2

AVERAGE ANNUAL BENEFIT

Age	YEARS DISABLED							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	8,164	0	0	0	8,164
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	4,938	0	4,938
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	8,164	0	4,938	0	6,551

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	0	0	0	8,164	0	4,938	0	13,102

Duluth Teachers' Retirement Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 1996

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	5.50%	\$1,366
2. Employer Contributions	5.79%	1,438
3. Total	11.29%	\$2,804
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	6.31%	\$1,568
b. Disability benefits	0.77%	192
c. Survivors	0.21%	53
d. Deferred Retirement Benefits	1.03%	255
e. Refunds Due to Death or Withdrawal	0.37%	92
f. Total	8.69%	\$2,160

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$24,834.

Duluth Teachers' Retirement Fund
Summary of Plan Provisions

GENERAL

Eligibility: A licensed teacher who is employed by the Duluth Public Schools, 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 State Department of Education. Employees in the Old Plan are those first hired before July 1, 1981.

Contributions:

Member: 5.5% of salary.

Employer: 5.79% of salary.

Credited Service: 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.

Salary: Annual contract salary.

Average Salary: Average of the five highest years of annual salary.

RETIREMENT

Normal Retirement Benefit:

Eligibility: Age 60 and one year of Credited Service.

Amount: The greater of
1.38% of Average Salary for each year of Credited Service
or
1.13% of Average Salary for each of the first 10 years of Allowable Service and 1.63% 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 service totals 90.
or
1.63% 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
1.38% 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
1.13% of Average Salary for each of the first 10 years of Allowable Service and 1.63% 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
1.63% 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: Annual Cost-of-Living Adjustment (COLA):
Effective November 1, 1995, the Board will 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.

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:

Eligibility: Totally and permanently disabled as a teacher before the
age of 60 with five years of Credited Service.

Amount: 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.

Form of Payment: Same as for retirement.

Benefit Increases: Same as for retirement.

DEATH

Return of Contributions I:

Eligibility: Death while active.

Amount: 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:

Eligibility: Death of Member who terminated employment after 10 years of service.

Amount: 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:

Eligibility: 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.

Amount: 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

Eligibility: Death of active Member with 10 years of Credited Service.

Amount: 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

Eligibility: 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.

Amount: 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:

Eligibility: Termination from teaching service.

Amount: 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:

Eligibility: Ten years of Credited 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.

TABLE 3B
NEW

DULUTH TEACHERS' RETIREMENT FUND
ACTIVE MEMBERS AS OF JUNE 30, 1996

<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	33	4	0	0	0	0	0	0	37
25-29	67	39	6	0	0	0	0	0	112
30-34	24	42	35	7	0	0	0	0	108
35-39	23	39	40	40	0	0	0	0	142
40-44	25	45	48	50	1	0	0	0	169
45-49	33	41	59	53	6	0	0	0	192
50-54	14	19	19	24	1	0	0	0	77
55-59	6	11	10	12	2	0	0	0	41
60-64	4	3	4	5	0	0	0	0	16
65+	2	1	1	1	0	0	0	0	5
ALL	231	244	222	192	10	0	0	0	899

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	2,336	18,365	0	0	0	0	0	0	4,069
25-29	2,950	18,895	25,615	0	0	0	0	0	9,717
30-34	2,413	20,758	26,599	33,306	0	0	0	0	19,388
35-39	1,659	21,126	27,827	36,889	0	0	0	0	24,301
40-44	3,421	19,506	32,689	41,781	44,868	0	0	0	27,611
45-49	2,432	19,846	35,132	43,038	45,236	0	0	0	28,746
50-54	1,622	17,637	39,052	39,556	45,298	0	0	0	27,201
55-59	1,703	22,968	31,708	43,344	37,647	0	0	0	28,668
60-64	924	3,235	31,057	34,774	0	0	0	0	19,469
65+	37	4,275	34,839	0	0	0	0	0	7,838
ALL	2,482	19,669	31,792	40,219	43,688	0	0	0	22,902

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	573	4,799	7,057	7,722	436	0	0	0	20,588

TABLE 4B
NEW

DULUTH TEACHERS' RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1996

<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	1	0	0	0	0	0	0	1
50-54	2	0	0	0	0	0	0	2
55-59	10	25	0	0	0	0	0	35
60-64	4	69	16	0	0	0	1	90
65-69	3	44	72	27	0	0	0	146
70-74	0	6	17	28	0	0	0	51
75-79	0	0	3	14	0	0	0	17
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	20	144	108	69	0	0	1	342

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	4,055	0	0	0	0	0	0	4,055
50-54	2,498	0	0	0	0	0	0	2,498
55-59	22,673	16,689	0	0	0	0	0	18,399
60-64	13,561	16,417	11,897	0	0	0	7,557	15,388
65-69	9,050	11,162	9,915	10,478	0	0	0	10,377
70-74	0	12,550	9,499	11,312	0	0	0	10,853
75-79	0	0	6,162	8,868	0	0	0	8,391
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	15,859	14,697	10,039	10,490	0	0	7,557	12,424

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	317	2,116	1,084	723	0	0	7	4,249

TABLE 5B
NEW

DULUTH TEACHERS' RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1996

<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	0	0	0	0
55-59	1	1	0	0	0	0	0	2
60-64	0	1	4	2	0	0	0	7
65-69	0	0	2	0	0	0	0	2
70-74	0	1	0	4	0	0	0	5
75-79	0	0	0	1	0	0	0	1
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	1	3	6	7	0	0	0	17

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	0	0	0	0
55-59	15,560	19,620	0	0	0	0	0	17,590
60-64	0	817	14,740	7,124	0	0	0	10,575
65-69	0	0	10,181	0	0	0	0	10,181
70-74	0	1,146	0	12,278	0	0	0	10,052
75-79	0	0	0	12,195	0	0	0	12,195
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	15,560	7,194	13,220	10,794	0	0	0	11,295

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) 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	15,560	21,582	79,320	75,558	0	0	0	192,015

TABLE 6B
NEW

DULUTH TEACHERS' RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1996

<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	1	1	1	0	0	0	0	3
50-54	0	1	0	0	0	0	0	1
55-59	0	0	0	0	0	0	0	0
60-64	0	0	1	0	0	0	0	1
65-69	0	1	0	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	1	3	2	0	0	0	0	6

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	8,472	15,820	1,964	0	0	0	0	8,752
50-54	0	10,812	0	0	0	0	0	10,812
55-59	0	0	0	0	0	0	0	0
60-64	0	0	20,846	0	0	0	0	20,846
65-69	0	14,850	0	0	0	0	0	14,850
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	8,472	13,827	11,405	0	0	0	0	12,127

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) 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	8,472	41,481	22,810	0	0	0	0	72,762

Duluth Teachers' Retirement Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 1996

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	5.50%	\$1,207
2. Employer Contributions	5.79%	1,270
3. Total	11.29%	\$2,477
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	7.35%	\$1,613
b. Disability benefits	1.14%	249
c. Survivors	0.28%	61
d. Deferred Retirement Benefits	0.67%	146
e. Refunds Due to Death or Withdrawal	0.30%	66
f. Total	9.74%	\$2,135

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$21,936.

Duluth Teachers' Retirement Fund

Summary of Plan Provisions

GENERAL

<i>Eligibility:</i>	A licensed teacher who is employed by the Duluth Public Schools, 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 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.
<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 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 1.13% of average salary for each of the first 10 years of Allowable Service and 1.63% of average salary for each subsequent year. or 1.63% of average salary for each year of Allowable Service. Hired after June 30, 1989: 1.63% 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.
<i>Amount:</i>	Hired before July 1, 1989: The greater of 1.13% of Average Salary for the first 10 years of Allowable Service and 1.63% 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

1.63% 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:

1.63% 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):

Effective November 1, 1995, the Board will 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.

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:

<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.

SUMMARY OF SIGNIFICANT CHANGES

None.