# Public Employees Retirement Fund ACTUARIAL VALUATION REPORT

**JULY 1, 2000** 





**Actuaries & Consultants** 

### Internationally WOODROW MILLIMAN

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November 30, 2000

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

RE: Public Employees 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, 2000.

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 Public Employees Retirement Fund.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

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# Report Highlights (dollars in thousands)

		07/01/1999 Valuation	07/01/2000 Valuation
A.	CONTRIBUTIONS (Table 11)  1. Statutory Contributions - Chapter 353  % of Payroll	10.00%	9.98%
	<ol><li>Required Contributions - Chapter 356</li><li>% of Payroll</li></ol>	9.44%	11.94%
	3. Sufficiency (Deficiency): (A.1 A.2.)	0.56%	-1.96%
B.	FUNDING RATIOS  1. Accrued Benefit Funding Ratio		
	a. Current Assets (Table 1)	\$8,489,177	\$9,609,367
	b. Current Benefit Obligations (Table 8)	\$8,606,978	\$10,348,480
	c. Funding Ratio: (a/b)	98.63%	92.86%
	2. Accrued Liability Funding Ratio		
	a. Current Assets (Table 1)	\$8,489,177	\$9,609,367
	b. Actuarial Accrued Liability (Table 9)	\$9,443,678	\$11,133,682
	c. Funding Ratio: (a/b)	89.89%	86.31%
	3. Projected Benefit Funding Ratio (Table 8)		
	a. Current and Expected Future Assets	\$11,871,320	\$13,358,946
	b. Current and Expected Future Benefit Obligations	\$11,549,347	\$14,613,970
	c. Funding Ratio: (a/b)	102.79%	91.41%
C.	PLAN PARTICIPANTS  1. Active Members		
	a. Number (Table 3)	137,528	135,560
	b. Projected Annual Earnings	\$3,544,488	\$3,602,750
	c. Average Annual Earnings (Projected \$)	\$25,773	\$26,577
	d. Average Age	44.1	44.4
	e. Average Service	8.5	9.0
	2. Others		
	a. Service Retirements (Table 4)	38,077	39,940
	b. Survivors (Table 5)	5,881	6,010
	c. Disability Retirements (Table 6)	1,301	1,397
	d. Deferred Retirements (Table 7)	16,340	21,495
	e. Terminated Other Non-vested (Table 7)	18,491	79,362
	f. Total	80,090	148,204

# 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 92.86%. The corresponding ratio for the prior year was 98.63%.
- 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 2000 the ratio is 86.31%, which is a decrease from the 1999 value of 89.89%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 91.41% verifies that the current statutory contributions are deficient.

### 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 non-MPRIF assets over five years, in a manner similar to that already being used within the MPRIF. 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, 2000, less

80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and 06/30/2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less* 

60% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on 06/30/99 and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets," the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e., MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e., SBI) will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

### Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

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 superceded 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.

The payments will increase 6% 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.

### 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.

### 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 9.98% compared to the Required Contribution Rate of 11.94%.

### Changes in Actuarial Assumptions and Methods

An entire new set of actuarial assumptions was recommended based on the 1992-96 experience analysis and was adopted by the LCPR for use in this valuation. The assumptions summarized in this report reflect the following changes:

# Summary of Assumption Changes

Assumption	Previous	Current
Salary increases	Merit table that ranges from 7.7% at age	Ten year select and ultimate table.
	20 down to 5.0% at age 70	During the select period, 0.2% x (10
		- T) where T is completed years of
		service is added to the ultimate rate.
		Ultimate table ranges from 6.75% at
		age 20 down to 5.0% at age 70
Male Pre-Retirement Mortality	1983 GAM (Male - 5)	1983 GAM (Male - 8)
Female Pre-Retirement Mortality	1983 GAM (Female - 5)	1983 GAM (Female - 7)
Male Post-Retirement Mortality	1983 GAM (Male + 1)	1983 GAM (Male)
Female Post-Retirement Mortality	1983 GAM (Female + 1)	1983 GAM (Female - 1)
Male Post-Disability Mortality	1965 RRB	1965 RRB to age 54, graded
		mortality rates between 1965 RRB
		and Post-Retirement Mortality table
		between ages 55 and 64, Post-
		Retirement Mortality table for ages
		65 and later
Female Post-Disability Mortality	1965 RRB	1965 RRB to age 54, graded
		mortality rates between 1965 RRB
		and Post-Retirement Mortality table
		between ages 55 and 64, Post-
		Retirement Mortality table for ages
		65 and later
Retirement Age	Age 64. In addition, 50% of Members are	Graded rates beginning at age 55. A
	assumed to retire when first eligible for	different set of rates applies if the
	the Rule of 90.	Member is eligible for the Rule of
S		90.
Separation Decrement	Graded rates based on attained age at	Select and ultimate table. Ultimate
	valuation date.	rates are generally lower than current
D: 10: D		rates.
Disability Decrement	Age-related rates.	Rates which are both age-related and
		gender-related. Recommended rates
		are significantly lower than current
No. 1. Cit.		rates especially for females.
Member Status	As reported	Actives with no salary and no
		credited service for the prior fiscal
		year are changed to terminated status as of the prior fiscal year end.
Combined Service Annuity	None	2.5% load on liabilities for active and
Load Factor	None	deferred vested participants.
Payroll Growth Assumption	6.0%	6.0%; except 5.0% for purposes of
ayron Growni Assumption	0.070	GASB-25 calculations.
	<u> </u>	G/10D-25 calculations.

Effective with this July 1, 2000 valuation, the funding method changes have been incorporated:

- Asset Valuation Method is changed to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style.
- The actuarial funding method was modified to reflect a 30-year amortization credit of the surplus of the Actuarial Value of Assets over the Actuarial Accrued Liability.

## Changes in Plan Provisions

There were no significant changes in the plan provisions since the last valuation.

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## Statement of Plan Net Assets

(dollars in thousands)

# JULY 1, 2000

		Market Value	Cost Value
A.	ASSETS IN TRUST	**- *	0.00.00
	1. Cash, Equivalents, Short-term Securities	\$62,637	\$62,637
	2. Fixed Income	1,265,848	1,289,148
	3. Equity	3,548,393	3,120,763
	4. Real Estate	180,901	145,541
	5. Equity in MPRIF	5,063,967	5,063,967
	6. Invested Securities Lending Collateral	961,940	961,940
	7. Other	1,802	1,802
	Subtotal	\$11,085,488	\$10,645,798
B.	ASSETS RECEIVABLE	14,700	14,700
		·	
C.	LIABILITIES		
	1. Invested Securities Lending Collateral	(961,940)	(961,940)
	2. Other	(190,891)	(190,891)
	Subtotal	(1,152,831)	(1,152,831)
D.	NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
	1. MPRIF Reserves	5,063,967	5,063,967
	2. Member Reserves	1,351,224	1,351,224
	3. Other Non-MPRIF Reserves	3,532,166	3,092,476
	4. Total Assets Available for Benefits	\$9,947,357	\$9,507,667
E.	DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
	<ol> <li>Market Value of Assets Available for Benefits (D4)</li> <li>Unrecognized Asset Returns (UAR)         <ul> <li>June 30, 2000</li> </ul> </li> </ol>	\$86,227	\$9,947,357
	b. June 30, 1999	448,347	
	3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)	· - <b>,</b> -	337,990
	4. Actuarial Value of Assets (E1 - E3)		9,609,367
	(Same as "Current Assets")		

# Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

		Non-MPRIF Assets	MPRIF Reserve	Market Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$4,601,314	\$4,336,210	\$8,937,524
B.	ADDITIONS			
В.	<ol> <li>Member Contributions</li> <li>Employer Contributions</li> <li>Contributions From Other Sources</li> <li>MPRIF Income</li> <li>Net Investment Income         <ul> <li>Interest and Dividends</li> <li>Net Realized Gain (Loss)</li> <li>Net Change in Unrealized Gain (Loss)</li> <li>Investment Expenses</li> <li>Net Subtotal</li> </ul> </li> <li>Other</li> </ol>	\$171,073 186,637 0 0 615,833 98,735 (232,836) (6,559) 475,173 1,299 \$834,182	\$0 0 0 731,990 0 0 0 0 \$731,990	\$171,073 186,637 0 731,990 615,833 98,735 (232,836) (6;559) 475,173 1,299 \$1,566,172
C.	<ol> <li>7. Total Additions</li> <li>OPERATING EXPENSES</li> <li>1. Service Retirements</li> <li>2. Disability Benefits</li> <li>3. Survivor Benefits</li> <li>4. Refunds</li> <li>5. Administrative Expenses</li> <li>6. Other</li> <li>7. Total Disbursements</li> </ol>	\$1,121 12,480 17,282 19,365 8,329 1,526 \$60,103	\$496,236 0 0 0 0 0 0 \$496,236	\$497,357 12,480 17,282 19,365 8,329 1,526 \$556,339
D.	OTHER CHANGES IN RESERVES  1. Annuities Awarded  2. Mortality Gain/Loss  3. Change in MPRIF Assumptions  4. Total Other Changes	(317,998) 2,463 (176,468) (492,003)	317,998 (2,463) 176,468 492,003	0 0 0
E.	ASSETS AVAILABLE AT END	\$4,883,390	\$5,063,967	\$9,947,357
F.	OF PERIOD DETERMINATION OF CURRENT YEAR UN 1. Average Balance (a) Non-MPRIF Assets Available at Beginnin		T RETURN	4,601,314
	(b) Non-MPRIF Assets Available at End of F	Period*		5,057,395
	<ul> <li>(c) Average Balance { [F1.a + F1.b - B5.e - F2.e.]</li> <li>2. Expected Return: .085 * F1.c</li> <li>3. Actual Return</li> <li>4. Current Year Unrecognized Asset Return: F3</li> <li>*Before adjustment for MPRIF mortality gain/loss</li> </ul>	8 - F2	tions	4,591,119 390,245 476,472 86,227

# PUBLIC EMPLOYEES RETIREMENT FUND **ACTIVE MEMBERS AS OF JUNE 30, 2000**

Years	of S	ervice
-------	------	--------

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
<25	2,599	2,041	35	3	0	0	0	0	4,678
25-29	2,302	4,985	953	21	0	0	0	0	8,261
30-34	2,066	5,095	3,123	951	34	0	0	0	11,269
35-39	2,275	6,071	3,988	2,982	1,170	80	0	0	16,566
40-44	2,148	6,918	5,520	3,934	2,401	1,720	67	0	22,708
45-49	5,207	7,029	6,002	4,743	2,727	2,856	1,192	36	29,792
50-54	932	3,099	3,936	4,287	2,750	2,621	1,942	574	20,141
55-59	547	1,591	2,002	2,429	1,944	1,912	1,262	754	12,441
60-64	280	902	1,080	1,189	957	1,054	791	323	6,576
65+	317	828	695	509	269	225	181	104	3,128
ALL	18,673	38,559	27,334	21,048	12,252	10,468	5,435	1,791	135,560

# **AVERAGE ANNUAL EARNINGS**

## Years of Service

<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
<25	10,281	15,327	21,182	15,923	0	0	0	0	12,568
25-29	13,743	21,318	25,630	25,204	0	0	0	0	19,715
30-34	13,749	22,256	29,743	32,048	31,847	0	0	0	23,627
35-39	12,811	19,734	28,658	35,241	34,440	33,653	0	0	24,829
40-44	12,269	18,174	25,081	34,516	38,770	37,352	37,600	0	25,813
45-49	10,534	17,994	23,379	30,975	37,657	41,747	40,960	39,603	24,864
50-54	13,105	19,731	24,177	29,255	34,403	40,255	45,856	46,683	30,282
55-59	11,602	18,678	23,191	28,029	30,598	34,312	40,887	46,586	29,128
60-64	9,348	14,919	20,810	26,863	28,684	30,352	32,549	39,840	25,630
65+	6,909	9,601	14,428	20,028	22,600	24,069	23,278	33,392	15,838
ALL	11,807	19,068	25,068	31,095	34,670	37,704	40,838	44,494	25,202

## PRIOR FISCAL YEAR EARNINGS (IN MILLIONS) BY YEARS OF SERVICE

Age	<1	1-4	5-9	<u>10-14</u>	<u> 15-19</u>	<u> 20-24</u>	<u>25-29</u>	<u> 30+</u>	<u>ALL</u>
All		 735	 685	655	425	395	222	80	3,416

### **SERVICE RETIREMENTS AS OF JUNE 30, 2000**

Vears	Retired	ı
I CAIS	NELLIC	

<u>Age</u>	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	3	5	0	0	0	0	0	8
50-54	20	18	2	0	0	0	0	40
55-59	734	1,453	8	1	0	0	0	2,196
60-64	1,191	3,183	1,438	15	0	0	0	5,827
65-69	658	4,186	3,579	873	3	0	0	9,299
70-74	129	958	4,383	2,720	459	0	0	8,649
75-79	33	229	1,032	3,634	1,749	32	1	6,710
80-84	8	51	181	749	2,769	469	10	4,237
85+	0	7	26	95	580	1,632	634	2,974
ALL	2,776	10,090	10,649	8,087	5,560	2,133	645	39,940

## **AVERAGE ANNUAL BENEFIT**

### Years Retired

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
<50	14,009	11,838	0	0	0	0	0	12,652
50-54	11,579	10,990	12,359	0	0	0	0	11,353
55-59	10,265	9,317	13,725	16,859	0	0	0	9,653
60-64	8,858	10,400	13,712	21,849	0	0	0	10,932
65-69	7,948	8,181	13,161	13,672	24,616	0	0	10,602
70-74	4,947	6,839	10,683	13,627	28,392	0	0	12,037
75-79	3,595	4,835	9,285	10,863	19,996	18,431	21,125	12,797
80-84	1,960	3,224	7,082	8,550	12,535	16,704	19,053	11,942
85+	0	1,884	3,232	5,701	9,013	12,075	11,729	11,099
ALL	8,775	8,818	11,713	11,842	15,830	13,188	11,857	11,458

### TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	20-24	<u>25+</u>	ALL
All	24,359	88,974	124,732	95,766	88,015	28,130	7,648	457,633

# **SURVIVORS AS OF JUNE 30, 2000**

### **Years Since Death**

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	20-24	<u>25+</u>	<u>ALL</u>
<50	20	105	69	29	12	1	0	236
50-54	10	56	30	22	8	3	0	129
55-59	19	104	75	33	14	13	3	261
60-64	11	122	155	75	46	12	7	428
65-69	4	80	210	218	87	29	14	642
70-74	2	32	194	372	321	62	51	1,034
75-79	0	17	81	296	501	161	82	1,138
80-84	2	5	33	97	384	332	148	1,001
85+	3	36	75	100	144	329	454	1,141
ALL	71	557	922	1,242	1,517	942	759	6,010

### **AVERAGE ANNUAL BENEFIT**

### **Years Since Death**

<u>Age</u>	<u>&lt;1</u>	1-4	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	5,910	7,619	7,368	8,939	11,629	22,722	0	7,831
50-54	4,920	12,840	10,768	9,115	17,501	8,515	0	11,297
55-59	7,955	9,171	10,665	11,319	16,556	9,535	16,050	10,277
60-64	8,140	8,569	12,713	14,223	16,938	14,355	8,757	12,114
65-69	2,178	6,456	10,455	14,868	20,834	15,176	8,889	12,989
70-74	958	5,842	9,624	13,860	18,664	11,763	7,898	13,864
75-79	0	6,806	5,842	11,146	14,443	12,230	7,746	12,063
80-84	2,279	6,200	7,285	9,058	11,824	11,172	7,889	10,561
85+	3,509	6,193	6,230	8,425	9,761	10,052	8,813	8,990
ALL	6,110	8,242	9,594	12,333	14,685	11,146	8,486	11,382

## TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

Age	<1	1-4	5-9	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	angesar <del>i -</del> en ere e	. == 6.55			erkadakaan too			
All	434	4,591	8,846	15,318	22,277	10,500	6,441	68,406

## **DISABILITY RETIREMENTS AS OF JUNE 30, 2000**

Years	Dica	h	hal
rears	DISa	w	ıcu

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	52	128	84	13	2	0	0	279
50-54	41	130	49	21	3	1	0	245
55-59	53	200	94	16	3	2	0	368
60-64	33	218	136	53	9	2	0	451
65-69	. 1	26	16	9	0	1	1	54
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	180	702	379	112	17	6	1	1,397

### **AVERAGE ANNUAL BENEFIT**

### Years Disabled

<u>Age</u>	<u>&lt;1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	5,944	6,549	5,992	5,361	3,069	0	0	6,188
50-54	8,852	8,526	7,895	6,242	6,541	8,991	0	8,236
55-59	9,773	9,687	9,815	9,369	9,353	4,738	0	9,688
60-64	8,794	9,343	11,746	10,853	18,770	9,954	0	10,395
65-69	5,894	10,634	17,602	10,982	0	10,011	9,791	12,642
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	O this samen, a to a photol	0	0	0	<b>0</b>	0	0
ALL	8,256	8,828	9,741	9,149	13,103	8,064	9,791	9,077

### TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	1,486	6,197	3,692	1,025	223	48	10	12,681

# **Reconciliation Of Members**

			Terminated		
			Deferred	Other	
		Actives	Retirement	Non-Vested	
A.	ON JUNE 30, 1999	137,528	16,340	18,491	
B.	ADDITIONS	19,377	6,337	7,554	
C.	DELETIONS				
	1. Service Retirement	(2,322)	(40)	(66)	
	2. Disability	(189)	0	(16)	
	3. Death	(129)	(14)	(52)	
	4. Terminated - Deferred	(4,537)	0	0	
	5. Terminated - Refund	(3,529)	(3)	(72)	
	6. Terminated - Other Non-Vested	(4,123)	0	0	
	7. Returned as Active	0	(562)	(2,242)	
	8. Members switched from Active to	(8,994)	2,502	6,492	
	Terminated status				
D.	DATA ADJUSTMENTS	2,478	(3,065)	49,273	
	Vested	93,117			
	Non-Vested	42,443			
	14011- V Cated	,			
E.	TOTAL ON JUNE 30, 2000	135,560	21,495	79,362	
			Recipients		
		Retirement	P		
		Annuitants	Disabled	Survivors	
A.	ON JUNE 30, 1999	38,077	1,301	5,881	
B.	ADDITIONS	3,066	269	443	
C.	DELETIONS				
C.	1. Service Retirement	0	(86)	0	
	2. Death	(1,184)	(57)	(286)	
	3. Annuity Expired	0	0	0	
	4. Returned as Active	0	0	0	
D.	DATA ADJUSTMENTS	(19)	(30)	(28)	
E.	TOTAL ON JUNE 30, 2000	39,940	1,397	6,010	

## Actuarial Balance Sheet

(dollars in thousands)

# JULY 1, 2000

A.	CURRENT ASSETS (TABLE 1, E6)		\$9,609,367			
В.	EXPECTED FUTURE ASSETS  1. Present Value of Expected Future Statutory Supplemental Contributions (Se	ee Table 11)		\$269,291		
	2. Present Value of Future Normal Costs			3,480,288		
	3. Total Expected Future Assets			\$3,749,579		
C.	TOTAL CURRENT AND EXPECTED FUTUR	RE ASSETS		\$13,358,946		
D.	CURRENT BENEFIT OBLIGATIONS  1. Benefit Recipients	Non-Vested	Vested	Total		
	a. Retirement Annuities		\$4,604,694	\$4,604,694		
	b. Disability Benefits					
	c. Surviving Spouse		152,737 593,356	152,737 593,356		
	and Child Benefits					
	2. Deferred Retirements with Future Augmenta	386,622	386,622			
	3. Former Members without Vested Rights		20,011	20,011		
	4. Active Members					
	a. Retirement Annuities	55,526	3,994,648	4,050,174		
	b. Disability Benefits	203,863	0	203,863		
	c. Survivor's Benefits	66,709	0	66,709		
	d. Deferred Retirements	8,074	244,119	252,193		
	e. Refund Liability Due	0	18,121	18,121		
	to Death or Withdrawal	<del></del>				
	5. Total Current Benefit Obligations	\$334,172	\$10,014,308	\$10,348,480		
E.	EXPECTED FUTURE BENEFIT OBLIGATIO		\$4,265,490			
F.	TOTAL CURRENT AND EXPECTED FUTUR	ATIONS	\$14,613,970			
G.	G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)					
H.	CURRENT AND FUTURE UNFUNDED ACT	\$1,255,024				

# Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

## JULY 1, 2000

		Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A.	DETERMINATION OF ACTUARIAL	(1)	(2)	(3)=(1)-(2)
	ACCRUED LIABILITY (AAL)			
	1. Active Members			
	a. Retirement Annuities	\$7,863,978	\$2,874,964	\$4,989,014
	b. Disability Benefits	395,484	191,919	203,565
	c. Survivor's Benefit	125,364	58,609	66,755
	d. Deferred Retirements	427,944	311,589	116,355
	e. Refunds Due to Death or Withdrawal	43,780	43,207	573
	f. Total	\$8,856,550	\$3,480,288	\$5,376,262
	2. Deferred Retirements With Future Augmentation	386,622		386,622
	3. Former Members Without Vested Rights	20,011		20,011
	4. Annuitants in MPRIF	5,063,967		5,063,967
	5. Recipients Not in MPRIF	286,820		286,820
	6. Total	\$14,613,970	\$3,480,288	\$11,133,682
B.	DETERMINATION OF UNFUNDED ACTUAL	RIAL ACCRUED L	IABILITY (UAAL)	
٠.	1. AAL (A6)		` ,	\$11,133,682
	2. Current Assets (Table 1, E6)			9,609,367
	3. UAAL (B1-B2)			\$1,524,315
C.	DETERMINATION OF SUPPLEMENTAL CO 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2024	ONTRIBUTION RAT	ΓE	\$64,116,859
	2. Supplemental Contribution Rate (B3/C1)			2.38%

# Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

# YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	\$954,501
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	<ol> <li>Normal Cost and Expenses</li> <li>Contribution</li> <li>Interest on A, B1 and B2</li> </ol>	\$275,703 (357,710) 77,647
	4. Total (B1+B2+B3)	(\$4,360)
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	\$950,141
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	<ol> <li>Salary Increases</li> <li>Investment Return</li> <li>MPRIF Mortality</li> <li>Mortality of Other Benefit Recipients</li> <li>Other Items</li> </ol>	(\$45,597) (278,205) (2,463) (9,857) 128,968
	6. Total	(\$207,154)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$742,987
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	44,863
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	736,465
H.	UAAL AT END OF YEAR (E+F+G)	\$1,524,315

# **Determination Of Contribution Sufficiency**

(dollars in thousands)

JULY 1, 2000

		Percent of Payroll	Dollar Amount
A.	STATUTORY CONTRIBUTIONS - CHAPTER 353		
	1. Employee Contributions	4.77%	\$171,898
	2. Employer Contributions	5.21%	187,823
	3. Total	9.98%	\$359,721
В.	REQUIRED CONTRIBUTIONS - CHAPTER 356		-
	1. Normal Cost		
	a. Retirement Benefits	7.82%	\$281,598
	b. Disability Benefits	0.49%	17,793
	c. Survivors	0.15%	5,503
	d. Deferred Retirement Benefits	0.78%	27,958
	e. Refunds Due to Death or Withdrawal	0.09%	3,236
	f. Total	9.33%	\$336,088
	2. Supplemental Contribution Amortization by July 1, 2024 of UAAL	2.38%	85,745
	3. Allowance for Expenses	0.23%	8,286
	4. Total	11.94%	\$430,119
C.	CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-1.96%	(\$70,398)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is \$3,602,750.

# Summary of Actuarial Assumptions and Methods

Interest:

Pre-Retirement: 8.5% per annum

**Post-Retirement**: 8.5% per annum

Benefit Increases
After Retirement:

Payment of earnings on retired reserves in excess of 6% accounted

for by 6% post-retirement assumptions.

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, 0.2% x (10 - T) where T is completed years of service is

added to the ultimate rate.

Mortality:

#### Pre-Retirement:

Male - 1983 Group Annuity Mortality Table for males

setback eight years.

Female - 1983 Group Annuity Mortality Table for females

setback seven years.

### **Post-Retirement:**

Male - 1983 Group Annuity Mortality Table for males.

Female - 1983 Group Annuity Mortality Table for females

setback one year.

### Post-Disability:

Male - 1965 RRB rates through age 54. For ages 55 to 64, graded rates between 1965 RRB rates and the Post-Retirement mortality table. For ages 65 and later, the

Post-Retirement mortality table.

Female - 1965 RRB rates through age 54. For ages 55 to 64,

graded rates between 1965 RRB rates and the Post-Retirement mortality table. For ages 65 and later, the

Post-Retirement mortality table.

Retirement Age:

Graded rates beginning at age 55 as shown in rate table. Members who have attained the highest assumed retirement age will retire in one

year.

Separation: Select and ultimate rates based on recent plan experience. Ultimate

rates after the third year are shown in rate table. Select rates are as

follows:

Second Year Third Year First Year 0.24 0.08 0.04

Disability: Rates as shown in rate table.

Member Status: Active members who are reported with no salary and no credited

service for the prior fiscal year are changed to terminated status as of

the prior fiscal year end.

Allowance for Combined

Liabilities for active and deferred vested participants are Service Annuity:

increased by 2.5% to account for the effect of some participants having

eligibility for a Combined Service Annuity.

Prior year expenses expressed as percentage of prior year payroll. Expenses:

Return of

All employees withdrawing after becoming eligible for a deferred Contributions:

benefit take the larger of their contributions accumulated with

interest or the value of their deferred benefit.

85% of male Members and 65% of female Members are assumed to be Family Composition:

married. Female is four years younger than male. Assume Members

have no children.

Social Security: N/A

Special Consideration: Married Members assumed to elect subsidized joint and survivor form

of annuity as follows:

Males - 30% elect 50% J&S option

45% elect 100% J&S option

Females - 15% elect 50% J&S option

15% 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:

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 6% 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.

(Continued)

# Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

								Retir	ement		Salary Increases  6.75% 6.70% 6.65% 6.60% 6.55%  6.50% 6.45% 6.30% 6.35% 6.30% 6.25% 6.21% 6.17% 6.13% 6.09% 6.01% 5.97% 5.93% 5.89%			
	Pre-Ret	irement					Bas	sic	Coordi	nated				
	De	ath	Witho	irawal	Disa	bility	Rule	of 90	Rule	of 90	Salary			
Age	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Eligible</u>	<u>Other</u>	<u>Eligible</u>	<u>Other</u>	<u>Increases</u>			
20	3	1	370	400	1	1	0	0	0	0	6.75%			
21	3	1	370	400	1	1	0	0	0	0				
22	3	1	370	400	1	1	0	0	0	0				
23	3	1	370	400	1	1	0	0	0	0				
24	3	2	370	400	1	1	0	0	0	0				
	_	_			_	_	-			•				
25	3	2	350	390	1	1	0	0	0	0	6.50%			
26	4	2	330	380	1	1	0	0	0	0	6.45%			
27	4	2	310	370	1	1	0	0	0	0	6.40%			
28	4	2	290	360	1	1	0	0	0	0	6.35%			
29	4	2	270	350	1	1	0	0	0	0	6.30%			
30	4	2	260	340	2	2	0	0	0	0	6.25%			
31	4	2	250	330	2	2	0	0	0	0	6.21%			
32	4	3	240	320	3	3	0	0	0	0	6.17%			
33	5	3	230	310	3	3	0	0	0	0	6.13%			
34	5	3	220	300	4	4	0	0	0	0	6.09%			
35	5	3	210	290	5	4	0	0	0	0	6.05%			
36	5	3	200	280	6	4	0	0	. 0	0	6.01%			
37	6	3	190	270	7	5	0	0	0	0	5.97%			
38	6	4	180	260	7	5	0	0	0	0	5.93%			
39	6	4	170	250	8	5	0	0	0	0	5.89%			
40	7	4	162	240	9	6	0	0	0	0	5.85%			
41	7	4	154	230	10	6	0	0	0	0	5.81%			
42	8	5	146	220	11	6	0	0	0	0	5.77%			
43	9	5	140	210	12	7	0	0	0	0	5.73%			
44	9	5	136	200	13	8	0	0	0	0	5.69%			

(Continued)

# Summary of Actuarial Assumptions and Methods

paratio	n Expres	sed as Nun	nber of O	ccurrences	Per 10,00	00:					
								Retir	ement		
	Pre-Ret	irement					Bas	sic	Coord	inated	
	De	ath	Withd	irawal	Disa	bility	Rule	of 90	Rule	of 90	Salary
<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<b>Eligible</b>	Other	<u>Eligible</u>	<u>Other</u>	<u>Increases</u>
45	10	6	132	190	14	9	0	0	0	0	5.65%
46	10	6	128	185	16	. 10	0	0	0	0	5.62%
47	11	7	124	180	17	12	0	0	0	0	5.59%
48	12	7	120	175	19	13	0	0	0	0	5.56%
49	14	8	116	170	21	14	0	0	0	0	5.53%
50	15	8	112	166	23	16	0	0	0	. 0	5.50%
51	17	9	108	162	25	18	0	0	0	0	5.45%
52	19	10	104	158	28	19	0	0	0	0	5.40%
53	22	11	100	154	35	22	0	0	0	0	5.35%
54	25	12	98	150	42	24	0	0	0	0	5.30%
55	28	14	96	146	49	26	3,500	600	1,000	300	5.25%
56	31	15	94	142	56	28	3,500	600	1,000	300	5.20%
57	35	16	92	138	61	31	3,500	700	2,000	300	5.15%
58	39	18	90	134	68	36	3,500	700	2,000	300	5.10%
59	43	20	88	130	75	41	3,500	800	3,000	400	5.05%
60	48	21	0	0	. 82	46	3,500	1,200	3,000	600	5.00%
61	52	23	0	0	89	51	4,000	1,200	4,000	1,100	5.00%
62	57	25	0	0	96	58	4,000	1,600	4,000	2,500	5.00%
63	61	28	0	0	103	65	4,000	1,200	4,000	1,500	5.00%
64	66	31	0	0	110	72	4,000	1,200	4,000	2,500	5.00%
65	71	35	0	0	0		5,000	5,000	5,000	5,000	5.00%
66	77	38	0	0	0	0	3,000	3,000	3,000	3,000	5.00%
67	84	43	0	0	0	0	3,000	3,000	3,000	3,000	5.00%
68	92	47	0	0	0	0	3,000	3,000	3,000	3,000	5.00%
69	101	52	0	0	0	0	3,000	3,000	3,000	3,000	5.00%
70	111	58	0	0	0	0	3,000	3,000	3,000	3,000	5.00%

10,000

5.00%

10,000

0

0

0

64

71

124

10,000

10,000

## SCHEDULE OF EMPLOYER CONTRIBUTIONS

(dollars in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (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	\$3,570,304	\$ 4,988,671	\$1,418,367	71.57%	\$2,124,409	66.77%
07/01/92	3,978,110	5,439,953	1,461,843	73.13	2,299,532	63.57
07/01/93	4,374,459	5,784,318	1,409,859	75.63	2,403,558	58.66
07/01/94	4,747,128	6,223,622	1,476,494	76.28	2,557,522	57.73
07/01/95	5,138,461	6,622,069	1,483,608	77.60	2,679,069	55.38
07/01/96	5,786,398	7,270,073	1,483,675	79.59	2,814,126	52.72
07/01/97	6,658,410	8,049,666	1,391,256	82.72	2,979,260	46.70
07/01/98	7,636,668	8,769,303	1,132,635	87.08	3,271,737	34.62
07/01/99	8,489,177	9,443,678	954,501	89.89	3,032,808	28.90
07/01/00	9,609,367	11,133,682	1,524,315	86.31	3,437,954	44.34

### SCHEDULE OF EMPLOYER CONTRIBUTIONS

(dollars in thousands)

Year Ended June 30	Actuarially Required Contribution Rate (A) <sup>(1)</sup>	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contribution [(A)x(B)]-(C)	Actual Employer Contribution <sup>(2)</sup>	Percentage Contributed
1991	10.04%	\$2,124,409	\$ 94,413	\$118,878	\$101,907	85.72%
1992	9.44	2,299,532	101,655	115,421	109,203	94.61
1993	9.95	2,403,558	106,359	132,795	113,183	85.23
1994	9.58	2,557,522	112,940	132,071	119,390	90.40
1995	9.76	2,679,069	115,986	145,491	123,984	85.22
1996	9.61	2,814,126	121,525	148,913	129,738	87.12
1997	9.75	2,979,260	128,234	162,244	136,686	84.25
1998	9.62 <sup>(3)</sup>	3,271,737	140,385	174,356	151,499	86.89
1999	9.63 <sup>(3)</sup>	3,302,808	158,475	159,585	173,370	108.64
2000	9.22 <sup>(3)</sup>	3,437,954	171,073	145,906	186,637	127.92
2001	11.84 <sup>(3),(4)</sup>					

<sup>(1)</sup> Actuarially Required Contributions determined for years ended 6/30/95, 6/30/96, and 6/30/97 did not comply with the parameters of GASB Statement No. 25 since a one percent growth in covered population is assumed in the amortization calculation.

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<sup>(2)</sup> Includes contributions from other sources (if applicable).

<sup>(3)</sup> Actuarially Required Contribution Rate calculated according to parameters of GASB 25 with no assumption for growth of covered population.

<sup>(4)</sup> Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Asset Valuation Method is 8.73%.

# **ACTIVE MEMBERS AS OF JUNE 30, 2000**

### Years of Service

_									
<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
<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	0	0	0	0	0	0
50-54	0	0	0	1	0	0	1	99	101
55-59	0	0	0	0	1	0	1	187	189
60-64	0	0	0	0	0	0	1	98	99
65+	0	0	0	0	0	0	0	49	49
ALL	0	0	0	1	1	0	3	433	438

## **AVERAGE ANNUAL EARNINGS**

### Years of Service

<u>Age</u>	<u>≤1</u>	1-4	<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>
<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	0	0	0	0	0	0
50-54	0	0	0	62,043	0	0	17,563	42,985	42,922
55-59	0	0	0	0	67,085	0	58,677	47,040	47,208
60-64	0	0	0	0	0	0	31,638	36,883	36,830
65+	0	0	0	0	0	0	0	30,096	30,096
ALL	0	0	0	62,043	67,085	0	35,959	41,897	41,959

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

Age	<1	1-4	5-9	10-14	<u> 15-19</u>	20-24	<u>25-29</u>	<u> 30+</u>	<u>ALL</u>
All	- 0	0	0	62	67	0	108	18,141	18,378

### **SERVICE RETIREMENTS AS OF JUNE 30, 2000**

_				Years l	Retired			
<u>Age</u>	<u>&lt;1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
<50	1	4	0	0	0	0	0	5
50-54	3	11	2	0	0	0	0	16
55-59	107	238	6	1	0	0	0	352
60-64	52	535	405	13	0	0	0	1,005
65-69	40	338	863	337	3	0	0	1,581
70-74	8	77	802	929	339	0	0	2,155
75-79	1	16	170	1,084	1,052	29	1	2,353
80-84	0	2	25	174	1,426	368	10	2,005
85+	0	0	2	14	212	1,079	510	1,817

### **AVERAGE ANNUAL BENEFIT**

				Years 1	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>	ALL
<50	18,371	14,331	0	0	0	0	0	15,139
50-54	19,225	13,302	12,359	0	0	0	0	- 14,295
55-59	29,933	30,063	11,902	16,859	0	0	0	29,676
60-64	28,257	29,649	33,554	22,816	0	0	0	31,062
65-69	22,818	22,553	31,405	28,570	24,616	0	0	28,678
70-74	19,888	21,202	24,440	26,578	35,751	0	0	27,008
75-79	11,115	26,217	23,988	21,633	27,596	19,924	21,125	24,475
80-84	0	17,039	19,750	20,500	18,502	19,237	19,053	18,827
85+	0	0	9,308	23,753	17,161	15,007	12,889	14,725
ALL	27,506	26,970	28,562	24,288	23,498	16,158	13,023	23,705

### TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

۸ ۵۵	_1	1 4	5.0	10 14	15 10	20.24	251	ATT
<u>Age</u>	~1	1-4	<u>3-9</u>	10-14	13-19	20-24	23 <del>+</del>	ALL
03000000000000000000000000000000000000	Charles and the control of the control	ora en la <del>Tubro al babancio</del>	er gele in environment i version i version i	er sama two seron considerations as	the second of the second of the second	so in a security to the interest	perent in the earlier of the property	
47.11	5 02 1	22.020	64.000	61.082	71046	00.040	·	207 605
All	3,831	32,930	64,978	61,982	/1,245	23,849	6,784	267,605

### **SURVIVORS AS OF JUNE 30, 2000**

Vears	Since	Death

Age	<u>&lt;1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	<u>ALL</u>
<50	0	2	6	7	6	1	0	22
50-54	0	4	3	9	5	2	0	23
55-59	0	6	19	12	9	11	3	60
60-64	0	11	50	33	31	9	7	141
65-69	0	7	61	106	63	26	14	277
70-74	0	2	64	175	216	51	48	556
75-79	0	3	19	103	317	119	81	642
80-84	0	4	25	44	240	248	139	700
85+	3	28	69	87	103	245	410	945
ALL	3	67	316	576	990	712	702	3,366

### **AVERAGE ANNUAL BENEFIT**

### Years Since Death

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	0	18,849	13,795	20,987	14,498	22,722	0	17,140
50-54	0	24,917	33,338	13,229	24,114	12,510	0	20,188
55-59	0	23,522	23,003	20,764	21,234	10,941	16,050	19,783
60-64	0	19,473	24,628	24,524	22,364	17,316	8,757	22,449
65-69	0	14,889	18,988	22,973	26,207	16,406	8,889	21,299
70-74	0	24,052	16,505	22,071	23,621	13,597	7,901	20,039
75-79	0	20,720	10,368	19,543	18,907	14,819	7,801	16,606
80-84	0	7,671	8,638	14,094	15,350	13,099	8,044	12,739
85+	3,509	7,178	6,538	8,632	11,987	11,387	9,128	9,715
ALL	3,509	14,013	15,601	19,108	18,947	12,986	8,698	15,150

# TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

_								
Age	<1	1-4	5-9	10-14	15-19	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
and the property of	and the second				FIG. 5 55 LLE 555 LL	F 4 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	s teorgia (m. n.	14 4 4
All	10	938	4.929	11.006	18.757	9.246	6.105	50,994

### **DISABILITY RETIREMENTS AS OF JUNE 30, 2000**

_				Years D	isabled				
<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	<u>ALL</u>	
<50	0	0	0	0	0	0	0	(	0
50-54	0	4	0	0	0	1	0		5
55-59	1	7	9	2	0	0	0	19	9
60-64	2	9	17	11	4	1	0	44	4
65-69	0	8	5	1	0	1	1	10	6
70-74	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	- ( )	)
85+	0	0	0	0	0	0	0		0
ALL		28	31	14	<b>4</b>	3.000 (1000)	1	84	4

## **AVERAGE ANNUAL BENEFIT**

				Years D	isabled			
<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	0	42,437	0	0	0	8,991	0	35,748
55-59	23,473	37,015	23,912	24,755	0	0	0	28,805
60-64	12,541	27,274	30,184	24,207	28,415	14,503	0	26,775
65-69	0	18,730	39,259	49,071	0	10,011	9,791	25,938
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	16,185	29,434	29,827	26,061	28,415	11,168	9,791	27,609

## TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age '	<u>&lt;1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
All	48	824	924	364	113	33	9	2,319

# **Determination Of Contribution Sufficiency**

(dollars in thousands)

JULY 1, 2000

		Percent of Payroll	Dollar Amount
A.	STATUTORY CONTRIBUTIONS - CHAPTER 353		
	1. Employee Contributions	8.75%	\$1,680
	2. Employer Contributions	11.43%	2,195
	3. Total	20.18%	\$3,875
В.	REQUIRED CONTRIBUTIONS - CHAPTER 356		·
	•		
	Normal Cost     a. Retirement Benefits	11.29%	\$2,169
	b. Disability Benefits	0.67%	129
	c. Survivors	0.41%	78
	d. Deferred Retirement Benefits	1.91%	366
	e. Refunds Due to Death or Withdrawal	0.02%	3
	f. Total	14.30%	\$2,745

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is \$19,203.

# Summary of Plan Provisions

### **GENERAL**

Eligibility: A public employee who is not covered under the Social Security Act.

General exceptions are employees covered by other public funds and

certain part-time employees.

Contributions:

*Member*: 8.75% of total salary thereafter.

*Employer*: 11.43% of total salary. Additional 2.68% is repealed at full funding.

Allowable Service: Service during which Member contributions were deducted. May

also include certain leaves of absence and military service.

Salary: Includes amounts deducted for deferred compensation or

supplemental retirement plans, net income from fees and sick leave

payments funded by the employer. Excludes unused annual leave

and sick leave payments, severance payments, Workers'
Compensation benefits and employer-paid flexible spending
accounts, cafeteria plans, healthcare expense accounts, day-care

expenses, fringe benefits and the cost of insurance coverage.

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

salary is based on all Allowable Service if less than five years.

### RETIREMENT

### Normal Retirement Benefit:

Eligibility: Age 65 and three years of Allowable Service. Proportionate

Retirement Annuity is available at age 65 and one year of Allowable

Service.

Amount:

The greater of:

2.2% of Average Salary for each of the first 10 years of Allowable Service and 2.7% of Average Salary for each

subsequent year;

OR

2.7% of Average Salary for each year of Allowable Service.

### Early Retirement Benefit:

Eligibility:

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.

Amount:

The greater of

2.2% of Average Salary for each of the first 10 years of Allowable Service and 2.7% 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 or age 62 if 30 years of Allowable Service. No

reduction if age plus years of Allowable Service totals 90;

2.7% 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.

Form of Payment: Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:

> 25%, 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option canceled if Member is pre-de-

ceased by beneficiary).

Benefit Increases:

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will receive a partial increase.

Benefit Increases: (continued)

Members retired under laws in effect before July 1, 1973 receive an additional lump-sum payment each year. In 1989, this lump-sum payment is the greater of \$25 times each full year of Allowable Service or the difference between \$400 times each full year of Allowable Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump-sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

#### DISABILITY

#### Disability Benefit:

Eligibility:

Total and permanent disability before normal retirement age with

three years of Allowable Service.

Amount:

Normal Retirement Benefit based on Allowable Service and average salary at disability without reduction for commencement before normal retirement age. Supplemental benefit of \$25 per month payable to the later of the normal retirement age or the 5-year anniversary at commencement of disability. The disability benefit is reduced to that amount which, when added to Workers' Compensation, does not exceed the salary the disabled Member received as of the date of the disability or the salary currently payable for the same employment position substantially similar to the one the person held as of the date of the disability, whichever is greater.

If a Member became disabled prior to July 1, 1997 but did not commence their benefit before July 1, 1997, the benefit payable is calculated under the laws in effect at the time the Member became disabled, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

Payments stop if disability ceases. If death occurs prior to age 65 or within five years of disability, the surviving spouse can receive a refund or a survivor benefit. Dependent children are entitled to dependent child benefits subject to the 70% family maximum. Payments change to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.

Form of Payment: Same as for retirement.

Benefit Increases: Adjusted by PERA to provide same increase as MPRIF.

#### Retirement After Disability

Eligibility: Normal retirement age.

Amount: Any optional annuity continues. Otherwise, the larger of the

disability benefit paid before normal retirement age or the normal

retirement benefit available at normal retirement age, or an

actuarially equivalent optional annuity.

Benefit Increases: Same as for retirement.

#### **DEATH**

#### Surviving Spouse Benefit

Eligibility: Active Member with 18 months of Allowable Service or Member

receiving a disability benefit.

Amount: 50% of salary averaged over last six months. Family benefit is

maximum of 70% and minimum of 50% of average salary. Benefit paid until spouse's death but no payments while spouse is remarried

prior to July 1, 1991.

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

Surviving spouse optional annuity may be elected in lieu of this benefit.

#### Surviving Dependent Child Benefit

Eligibility:

Active Member with 18 months of Allowable Service or Member

receiving a disability benefit.

Amount:

10% of salary averaged over last six months for each child. Family benefit minimum (including spouse's benefit) of 50% of salary and maximum of 70% of average salary. Benefits paid until child mar-

ries, dies, or attains age 18 (age 22 if full-time student.)

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

### Surviving Spouse Optional Annuity

*Eligibility*:

Member or former Member who dies before retirement benefits

commence and other survivor annuity is waived by spouse.

Amount:

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

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

Benefit Increases: Adjusted by PERA to provide same increase as MPRIF.

Refund of Contributions

Eligibility:

Member dies before receiving any retirement benefits and survivor

benefits are not payable.

Amount:

The excess of the Member's contributions with 6% interest over any

disability or survivor benefits paid.

**TERMINATION** 

Refund of Contributions

Eligibility:

Termination of public 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 three or more years of Allowable

Service.

Deferred Benefit

Eligibility:

Three years of Allowable Service.

Amount:

Benefit computed under law in effect at termination and increased by the following percentage compounded annually: 0% before 7/1/71; 5% from 7/1/71 to 1/1/81; and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Members active with a public employer the day prior to the privatization of the employer become vested immediately and receive augmentation at the rate of 5.5% compounded annually through the year the member turns age 55 and 7.5% thereafter until the annuity begins. Amount is payable as a normal or early

retirement.

If a Member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement

interest rates from 5% to 6%.

# **SUMMARY OF SIGNIFICANT CHANGES**

No significant changes were recognized for this valuation.

# **ACTIVE MEMBERS AS OF JUNE 30, 2000**

#### Years of Service

Age	<u>&lt;1</u>	1-4	<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>
<25	2,599	2,041	35	3	0	0	0	0	4,678
25-29	2,302	4,985	953	21	0	0	0	0	8,261
30-34	2,066	5,095	3,123	951	34	0	0	0	11,269
35-39	2,275	6,071	3,988	2,982	1,170	80	0	0	16,566
40-44	2,148	6,918	5,520	3,934	2,401	1,720	67	0	22,708
45-49	5,207	7,029	6,002	4,743	2,727	2,856	1,192	36	29,792
50-54	932	3,099	3,936	4,286	2,750	2,621	1,941	475	20,040
55-59	547	1,591	2,002	2,429	1,943	1,912	1,261	567	12,252
60-64	280	902	1,080	1,189	957	1,054	790	225	6,477
65+	317	828	695	509	269	225	181	55	3,079
ALL	18,673	38,559	27,334	21,047	12,251	10,468	5,432	1,358	135,122

# **AVERAGE ANNUAL EARNINGS**

#### Years of Service

	A CALLS OF DOT VICE								
Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25-29</u>	<u>30+</u>	ALL
<25	10,281	15,327	21,182	15,923	0	0	0	0	12,568
25-29	13,743	21,318	25,630	25,204	0	0	0	0	19,715
30-34	13,749	22,256	29,743	32,048	31,847	0	0	0	23,627
35-39	12,811	19,734	28,658	35,241	34,440	33,653	0	0	24,829
40-44	12,269	18,174	25,081	34,516	38,770	37,352	37,600	0	25,813
45-49	10,534	17,994	23,379	30,975	37,657	41,747	40,960	39,603	24,864
50-54	13,105	19,731	24,177	29,248	34,403	40,255	45,871	47,454	30,218
55-59	11,602	18,678	23,191	28,029	30,580	34,312	40,873	46,436	28,850
60-64	9,348	14,919	20,810	26,863	28,684	30,352	32,550	41,127	25,459
65+	6,909	9,601	14,428	20,028	22,600	24,069	23,278	36,329	15,612
ALL	11,807	19,068	25,068	31,093	34,667	37,704	40,841	45,322	25,148

# PRIOR FISCAL YEAR EARNINGS (IN MILLIONS) BY YEARS OF SERVICE

Age <1	1-4	5-9	10-14	15-19	20-24	<u>25-29</u>	<u>30+</u>	ALL
A11	221 735	685	654	425	395	222	62	3,398

# SERVICE RETIREMENTS AS OF JUNE 30, 2000

	Years Retired								
Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL	
<50	2	1	0	0	0	0	0	3	
50-54	17	7	0	0	0	0	0	24	
55-59	627	1,215	2	0	0	0	0	1,844	
60-64	1,139	2,648	1,033	2	0	0	0	4,822	
65-69	618	3,848	2,716	536	0	0	0	7,718	
70-74	121	881	3,581	1,791	120	0	0	6,494	
75-79	32	213	862	2,550	697	3	0	4,357	
80-84	8	49	156	575	1,343	101	0	2,232	
85+	0	7	24	81	368	553	124	1,157	
ALL	2,564	8,869	8,374	5,535	2,528	657	124	28,651	

# **AVERAGE ANNUAL BENEFIT**

	Years Retired										
Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL			
<50	11,829	1,869	0	0	0	0	0	8,509			
50-54	10,230	7,357	0	0	0	0	0	9,392			
55-59	6,909	5,254	19,195	0	0	0	0	5,832			
60-64	7,973	6,511	5,934	15,566	0	0	0	6,737			
65-69	6,986	6,919	7,365	4,306	0	0	0	6,900			
70-74	3,960	5,584	7,602	6,910	7,605	0	0	7,070			
75-79	3,361	3,229	6,386	6,285	8,527	3,999	0	6,491			
80-84	1,960	2,661	5,052	4,934	6,200	7,475	0	5,758			
85+	0	1,884	2,726	2,581	4,320	6,356	6,7962	5,407			
ALL	7,227	6,320	7,136	6,104	6,635	6,517	6,962	6,633			

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	<1	1-4	5-9	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	 18,530	56,052	59,756	33,785	16,773	4,281	863	190,042

### **SURVIVORS AS OF JUNE 30, 2000**

Vanre	C:	Danth

<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>				
20	103	63	22	6	0	0	214				
10	52	27	13	3	1	0	106				
19	98	56	21	5	2	0	201				
11	111	105	42	15	3	0	287				
4	73	149	112	24	3	0	365				
2	30	130	197	105	11	3	478				
0	14	62	193	184	42	1	496				
2	1	8	53	144	84	9	301				
0	8	6	13	41	84	44	196				
68	490	606	666	527	230	57	2,644				
	20 10 19 11 4 2 0 2	20 103 10 52 19 98 11 111 4 73 2 30 0 14 2 1 0 8	20 103 63 10 52 27 19 98 56 11 111 105 4 73 149 2 30 130 0 14 62 2 1 8 0 8 6	20       103       63       22         10       52       27       13         19       98       56       21         11       111       105       42         4       73       149       112         2       30       130       197         0       14       62       193         2       1       8       53         0       8       6       13	20     103     63     22     6       10     52     27     13     3       19     98     56     21     5       11     111     105     42     15       4     73     149     112     24       2     30     130     197     105       0     14     62     193     184       2     1     8     53     144       0     8     6     13     41	20       103       63       22       6       0         10       52       27       13       3       1         19       98       56       21       5       2         11       111       105       42       15       3         4       73       149       112       24       3         2       30       130       197       105       11         0       14       62       193       184       42         2       1       8       53       144       84         0       8       6       13       41       84	20       103       63       22       6       0       0         10       52       27       13       3       1       0         19       98       56       21       5       2       0         11       111       105       42       15       3       0         4       73       149       112       24       3       0         2       30       130       197       105       11       3         0       14       62       193       184       42       1         2       1       8       53       144       84       9         0       8       6       13       41       84       44				

#### **AVERAGE ANNUAL BENEFIT**

#### **Years Since Death**

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
<50	5,910	7,401	6,756	5,106	8,761	0	0	6,874
50-54	4,920	11,911	8,261	6,268	6,480	527	0	9,369
55-59	7,955	8,293	6,479	5,923	8,138	1,805	0	7,440
60-64	8,140	7,489	7,040	6,130	5,727	5,473	0	7,038
65-69	2,178	5,648	6,962	7,198	6,730	4,521	0	6,684
70-74	958	4,628	6,237	6,566	8,469	3,264	7,853	6,682
75-79	0	3,825	4,455	6,665	6,754	4,896	3,329	6,185
80-84	2,279	319	3,059	4,878	5,949	5,483	5,499	5,497
85+	0	2,747	2,695	7,040	4,169	6,161	5,883	5,495
ALL	6,225	7,454	6,462	6,474	6,679	5,451	5,881	6,586

# TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

_						20.04	0.5	ATT	
<u>Age</u>	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL	
<u> </u>			1,400 TO 100 TO	A CONTRACTOR OF	A PART TO COMPANY AND A	Two pasts at New Y	- 141725 PASSAGET		
A 11	422	2 652	3 015	4311	3 510	1 253	335	17.413	
All	423	3,652	3,915	4.311	3,519	1,253	335	17,41	13

#### **DISABILITY RETIREMENTS AS OF JUNE 30, 2000**

	Years Disabled									
<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>		
<50	52	128	84	13	2	0	0	279		
50-54	41	126	49	21	3	0	0	240		
55-59	52	193	85	14	3	2	0	349		
60-64	31	209	119	42	5	1	0	407		
65-69	1 -	18	11	8	0	0	0	38		
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	177	674	348	98	13	3	0	1,313		

#### **AVERAGE ANNUAL BENEFIT**

	Years Disabled									
Age	<u>&lt;1</u>	1-4	<u>5-9</u>	10-14	<u>15-19</u>	20-24	<u>25+</u>	ALL		
<50	5,944	6,549	5,992	5,361	3,069	0	0	6,188		
50-54	8,852	7,450	7,895	6,242	6,541	0	0	7,663		
55-59	9,510	8,696	8,323	7,172	9,353	4,738	0	8,648		
60-64	8,553	8,571	9,112	7,356	11,055	5,406	0	8,625		
65-69	5,894	7,037	7,759	6,221	0	0	0	7,044		
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	8,122	7,972	7,952	6,734	8,392	4,961	0	7,892		

#### TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	<1	1-4	5-9	10-14	15-19	20-24	<u>25+</u>	<u>ALL</u>
All	1.437	5.373	2.767	659	109	14	0	10,362

# **Public Employees Retirement Fund**

# **Determination Of Contribution Sufficiency**

(dollars in thousands)

JULY 1, 2000

		Percent of Payroll	Dollar Amount
A.	STATUTORY CONTRIBUTIONS - CHAPTER 353		
	1. Employee Contributions	4.75%	\$170,218
	2. Employer Contributions	5.18%	185,628
	3. Total	9.93%	\$355,846
В.	REQUIRED CONTRIBUTIONS - CHAPTER 356		
	1. Normal Cost		
	a. Retirement Benefits	7.80%	\$279,429
	b. Disability Benefits	0.49%	17,664
	c. Survivors	0.15%	5,425
	d. Deferred Retirement Benefits	0.77%	27,592
	e. Refunds Due to Death or Withdrawal	0.09%	3,232
	f. Total	9.30%	\$333,342

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is \$3,583,547.

#### **Public Employees Retirement Fund**

# Summary of Plan Provisions

#### **GENERAL**

Eligibility A public employee who is covered under the Social Security Act.

General exceptions are employees covered by other public funds and certain part-time employees. City managers and persons

holding elective office may choose to become Members.

**Contributions** 

*Member*: 4.75% of total salary.

Employer: 5.18% of total salary. Additional 0.43% is repealed at full

funding.

Allowable Service: Service during which Member contributions were deducted. May

also include certain leaves of absence and military service.

Salary: Includes amounts deducted for deferred compensation or

supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leave and sick leave payments, severance payments, Workers' Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care

expenses, fringe benefits and the cost of insurance coverage.

Average Salary: Average of the five highest successive years of

salary. Average salary is based on all Allowable Service if less

than five years.

#### RETIREMENT

#### Normal Retirement Benefit

Eligibility:

First hired before July 1, 1989:

Age 65 and three years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and one year of

Allowable Service.

Amount:

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.

Eligibility:

First hired after June 30, 1989:

The greater of age 65 or the age eligible for full Social Security retirement benefits but no later than age 66 and three years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable

Service.

Amount:

1.7% of Average Salary for each year of Allowable Service.

#### Early Retirement Benefit

Eligibility:

First 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.

First hired after June 30, 1989:

Age 55 with three years of Allowable Service.

Amount:

#### First 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 with reduction of 0.25% for each month the Member is under age 65 at time of retirement or 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.

#### First hired after June 30, 1989:

1.7% of Average Salary for each year of allowable Service assuming augmentation to the age eligible for full Social Security retirement benefits at 3% per year and actuarial reduction for each month the Member is under the Social Security retirement age, but no later than age 66.

Form of Payment:

Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:

25%, 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction (option canceled if Member is pre-deceased by beneficiary).

Benefit Increases:

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Benefit recipients receiving benefits for at least one full month but less than 12 full months will receive a partial increase.

Members retired under laws in effect before July 1, 1973 receive an additional lump-sum payment each year. In 1989, this lump-sum payment is \$25 times each full year of Allowable Service. In each following year, the lump-sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

#### DISABILITY

### Disability Benefit

Eligibility:

Total and permanent disability before normal retirement age with

three years of Allowable Service.

Amount:

Normal Retirement Benefit based on Allowable Service and average salary at disability without reduction for commencement before normal retirement age. The disability benefit is reduced to that amount which, when added to Workers' Compensation, does not exceed the salary the disabled Member received as of the date of the disability or the salary currently payable for the same employment position substantially similar to the one the person held as of the date of the disability, whichever is greater.

If a Member became disabled prior to July 1, 1997 but did not commence their benefit before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

Payments stop if disability ceases or death occurs. Payments change to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.

Form of Payment:

Same as for retirement.

Benefit Increases:

Adjusted by PERA to provide same increase as MPRIF.

#### Retirement After Disability

Eligibility:

Normal retirement age.

Amount:

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

actuarially equivalent optional annuity.

Benefit Increases:

Same as for retirement.

#### **DEATH**

## Surviving Spouse Optional Annuity

Eligibility:

Member or former Member who dies before retirement or

disability benefits commence.

Amount:

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

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

Benefit Increases:

Adjusted by PERA to provide same increase as MPRIF.

#### Refund of Contributions

Eligibility: Member dies before receiving any retirement benefits and

survivor benefits are not payable.

Amount: The excess of the Member's contributions with 6% interest over

any disability or survivor benefits paid.

## **TERMINATION**

#### Refund of Contributions

Eligibility: Termination of public 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 three or more years

of Allowable Service.

Deferred Benefit

Eligibility: Three years of Allowable Service.

Amount: Benefit computed under law in effect at termination and

increased by the following percentage compounded annually: 0% before 7/1/71; 5% from 7/1/71 to 1/1/81; and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Members active with a

public employer the day prior to the privatization of the

employer become vested immediately and receive augmentation at the rate of 5.5% compounded annually through the year the member turns age 55 and 7.5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

If a Member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the

post-retirement interest rates from 5% to 6%.

# **SUMMARY OF SIGNIFICANT CHANGES**

No significant changes were recognized for this valuation.

# Public Employees Police and Fire Fund ACTUARIAL VALUATION REPORT

July 1, 2000





**Actuaries & Consultants** 

Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 262/784-2250 Fax: 262/784-7287

November 30, 2000

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

RE: Public Employees Police and Fire 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, 2000.

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 Public Employees Retirement 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.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

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

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# Report Highlights

(dollars in thousands)

A. CONTRIBUTIONS (Table 11) 1. Statutory Contributions - Chapter 353 % of Payroll 2. Required Contributions - Chapter 356 % of Payroll 3. Sufficiency (Deficiency): (A.1 A.2.) 3. Current Assets (Table 1) 3. Current Benefit Obligations (Table 8) 3. Current Assets (Table 1) 3. Actural Accrued Liability (Table 9) 3. Projected Benefit Funding Ratio (Table 8) 3. Current and Expected Future Assets 3. Current and Expected Future Assets 4. August (Table 3) 5. Current and Expected Future Benefit Obligations 5. Funding Ratio: (a/b) 5. Projected Annual Earnings 6. Funding Ratio: (a/b) 5. Projected Annual Earnings 6. Average Annual Earnings 7. Active Members 7. August (Table 3) 7. Projected Annual Earnings (Projected \$) 7. Average Annual Earnings (Projected \$) 7. Average Age 7. Average Service 7. Average Service 7. Average Service 7. Suppose Service 7. Suppose Service (Table 4) 7. Suppose Service (Table 5) 7. Suppose Service (Table 6) 7. Suppose Service (Table 7) 8. Suppose			07/01/1999 Valuation	07/01/2000 Valuation
% of Payroll	A.	1. Statutory Contributions - Chapter 353	15.50%	15.50%
B. FUNDING RATIOS  1. Accrued Benefit Funding Ratio a. Current Assets (Table 1) b. Current Benefit Obligations (Table 8) c. Funding Ratio: (a/b)  2. Accrued Liability Funding Ratio a. Current Assets (Table 1) b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  2. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 6) c. Deferred Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) e. Terminated			11.68%	12.68%
1. Accrued Benefit Funding Ratio a. Current Assets (Table 1) b. Current Benefit Obligations (Table 8) c. Funding Ratio: (a/b)  2. Accrued Liability Funding Ratio a. Current Assets (Table 1) b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b)  3. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Assets c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  6. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  11.0  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) 195 626		3. Sufficiency (Deficiency): (A.1 A.2.)	3.82%	2.82%
b. Current Benefit Obligations (Table 8) c. Funding Ratio: (a/b)  2. Accrued Liability Funding Ratio a. Current Assets (Table 1) b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  6. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) 1. Table 33,674 127.859 127.85	B.			
c. Funding Ratio: (a/b)  2. Accrued Liability Funding Ratio a. Current Assets (Table 1) b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  4. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) 1. Table 33,674 127.55% 33,679,551 34,145,351 34,141,345 34,141,245 34,835,275 34,835,275 34,835,275 34,835,275 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,12,145 34,141,145 34,12,145 34,		a. Current Assets (Table 1)	•	
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a. Current Assets (Table 1) b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b) 3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service 11.0  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) e. Terminated Other Non-vested (Table 7)  122.648 122.648 3,674,531 3,412,745 4,4835,275 4,4412,745 4,4835,275 4,412,1345 4,4412,745 4,4434 4,543,926 4,412,1345 4,543,926 4,543,926 4,741,245 4,741,24		c. Funding Ratio: (a/b)	127.86%	127.55%
a. Current Assets (Table 1) b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b) 3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service 11.0  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) e. Terminated Other Non-vested (Table 7)  122.648 122.648 3,674,531 3,412,745 4,4835,275 4,4412,745 4,4835,275 4,412,1345 4,4412,745 4,4434 4,543,926 4,412,1345 4,543,926 4,543,926 4,741,245 4,741,24		2 Accraed Liability Funding Ratio		
b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  C. PLAN PARTICIPANTS  1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) e. Terminated Other Non-vested (Table 7)  3. \$3,304,637 122.46% 122.483 1,204,637 122.46% 122.46% 122.46% 142.46% 142.46% 142.46% 142.46% 142.46% 142.46% 142.46% 142.46% 143.46% 144.46% 145.46% 146.46% 147.4			\$3,679,551	\$4,145,351
c. Funding Ratio: (a/b)  3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7)  122.46% 122.53% 122.46% 122.53% 122.46% 122.53% 14.42.745 \$4,43.5,275 \$4,43.926  24,412,745 \$4,543,926  34,543,926  34,70  3,677  3,677  3,677  3,991  3,674 3,991  3,674 3,991  3,674 3,991  4,173 4,205  4,173 4,205  4,173 4,205  4,173 4,205  4,173 4,205  4,173 4,205  4,173 4,205  4,174 4,205  4,175 4,175 4,205  4,175 4,205  4,175 4,205  4,175 4,205  4,175 4,		· · · · · · · · · · · · · · · · · · ·	• •	
3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) e. Terminated Other Non-vested (Table 7)  2. Others 3. \$4,412,745 \$4,434,543,926 107.07% 106.41%  2. 9,627		· · · · · · · · · · · · · · · · · · ·		
a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7)  9,627				
b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)  C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) c. Funding Ratio: \$4,543,926 107.07% 106.41% 106.41% 107.07% 106.41% 107.07% 106.41% 107.07% 106.41% 107.07% 106.41% 107.07% 106.41% 106.41% 107.07% 106.41% 107.07% 106.41% 106.41% 107.07% 106.41% 107.07% 106.41% 106.41% 106.41% 107.07% 106.41% 107.07% 106.41% 106.41% 106.41% 106.41% 107.07% 106.41% 106.41% 106.41% 106.41% 106.41% 107.07% 106.41%			\$4 412 745	\$4 835 <i>275</i>
c. Funding Ratio: (a/b) 107.07% 106.41%  C. PLAN PARTICIPANTS  1. Active Members				, ,
C. PLAN PARTICIPANTS  1. Active Members  a. Number (Table 3)  b. Projected Annual Earnings  c. Average Annual Earnings (Projected \$)  d. Average Age  e. Average Service  2. Others  a. Service Retirements (Table 4)  b. Survivors (Table 5)  c. Disability Retirements (Table 6)  d. Deferred Retirements (Table 7)  e. Terminated Other Non-vested (Table 7)  e. Terminated Other Non-vested (Table 7)  Contact Service Service  9,477  9,627  9,				
a. Number (Table 3)       9,477       9,627         b. Projected Annual Earnings       \$474,245       \$494,134         c. Average Annual Earnings (Projected \$)       \$50,042       \$51,328         d. Average Age       39.0       38.7         e. Average Service       11.0       11.0         2. Others       3,674       3,991         b. Survivors (Table 4)       3,674       3,991         b. Survivors (Table 5)       1,173       1,205         c. Disability Retirements (Table 6)       412       482         d. Deferred Retirements (Table 7)       368       470         e. Terminated Other Non-vested (Table 7)       195       626	C.	PLAN PARTICIPANTS		
b. Projected Annual Earnings c. Average Annual Earnings (Projected \$) d. Average Age e. Average Service  2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7)  5494,134 5494,134 550,042 551,328 39.0 38.7 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11			9 477	9 627
c. Average Annual Earnings (Projected \$)       \$50,042       \$51,328         d. Average Age       39.0       38.7         e. Average Service       11.0       11.0         2. Others       3,674       3,991         b. Survivors (Table 5)       1,173       1,205         c. Disability Retirements (Table 6)       412       482         d. Deferred Retirements (Table 7)       368       470         e. Terminated Other Non-vested (Table 7)       195       626			•	•
d. Average Age       39.0       38.7         e. Average Service       11.0       11.0         2. Others       3,674       3,991         b. Survivors (Table 5)       1,173       1,205         c. Disability Retirements (Table 6)       412       482         d. Deferred Retirements (Table 7)       368       470         e. Terminated Other Non-vested (Table 7)       195       626		<del>-</del>	· · · · · · · · · · · · · · · · · · ·	
e. Average Service  2. Others  a. Service Retirements (Table 4)  b. Survivors (Table 5)  c. Disability Retirements (Table 6)  d. Deferred Retirements (Table 7)  e. Terminated Other Non-vested (Table 7)  11.0  11.0  11.0  11.0  11.0  11.0  11.0  11.0  11.0  1.0  3,674  3,991  1,173  1,205  482  482  482  482  482  482  482  48			·	
2. Others       3,674       3,991         a. Service Retirements (Table 4)       3,674       3,991         b. Survivors (Table 5)       1,173       1,205         c. Disability Retirements (Table 6)       412       482         d. Deferred Retirements (Table 7)       368       470         e. Terminated Other Non-vested (Table 7)       195       626				11.0
a. Service Retirements (Table 4)       3,674       3,991         b. Survivors (Table 5)       1,173       1,205         c. Disability Retirements (Table 6)       412       482         d. Deferred Retirements (Table 7)       368       470         e. Terminated Other Non-vested (Table 7)       195       626		•		
b. Survivors (Table 5)  c. Disability Retirements (Table 6)  d. Deferred Retirements (Table 7)  e. Terminated Other Non-vested (Table 7)  1,173  482  482  470  1,205  482			3 674	3 991
c. Disability Retirements (Table 6)       412       482         d. Deferred Retirements (Table 7)       368       470         e. Terminated Other Non-vested (Table 7)       195       626				
d. Deferred Retirements (Table 7)  e. Terminated Other Non-vested (Table 7)  368 470  626		· ·		
e. Terminated Other Non-vested (Table 7)  195 626		· · · · · · · · · · · · · · · · · · ·		
C. Totalinated Canal Tion ( 2000 )				
		f. Total		

# 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 127.55%. The corresponding ratio for the prior year was 127.86%.
- 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 2000 ratio is 122.53%, which is an increase from the 1999 value of 122.46%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 106.41% 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 non-MPRIF assets over five years, in a manner similar to that already being used within the MPRIF. 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, 2000, less

80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and 06/30/2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less* 

60% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on 06/30/99 and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

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.

The Police and Fire Consolidation Fund was merged into the Public Employees Police and Fire Fund effective July 1, 1999. The Local Relief Association accounts that had a "Positive Amortizable Base" on July 1, 1999 were required to make 10 year fixed amortization payments to pay for the unfunded liability that existed on that date. The Market Value of Assets includes the outstanding balance as of the valuation date.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e., MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e., SBI) will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

#### Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

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 superceded 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.

#### 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 15.50% compared to the Required Contribution Rate of 12.68%.

#### Changes in Actuarial Assumptions and Methods

All actuarial assumptions listed in Table 12 are the same as those used in the prior valuation.

Effective with this July 1, 2000 valuation, the following method changes have been incorporated:

- Asset Valuation Method is changed to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style.
- The actuarial funding method was modified to reflect a 30-year amortization credit of the surplus of the Actuarial Value of Assets over the Actuarial Accrued Liability.

#### Changes in Plan Provisions

All other plan provisions are the same as those used in the prior actuarial valuation of the Fund.

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# Statement of Plan Net Assets

(dollars in thousands)

# JULY 1, 2000

		Market Value	Cost Value
A.	ASSETS IN TRUST		
	1. Cash, Equivalents, Short-term Securities	\$31,882	\$31,882
	2. Fixed Income	646,150	657,103
	3. Equity	1,819,187	1,663,118
	4. Real Estate	93,409	78,009
	5. Equity in MPRIF	1,680,540	1,680,540
	6. Invested Securities Lending Collateral	425,023	425,023
	7. Other	0	0
	Subtotal	\$4,696,191	\$4,535,675
B.	ASSETS RECEIVABLE		
	Amounts receivable from municipalities with positive     amortizable bases	41,334	41,334
	2. Other	19,123	19,123
	Subtotal	60,457	60,457
C.	LIABILITIES	(425.022)	(425.022)
	1. Invested Securities Lending Collateral	(425,023) (5,909)	(425,023) (5,909)
	2. Other Subtotal	(430,932)	(430,932)
	Subtotal	(430,932)	(430,732)
D.	NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
	1. MPRIF Reserves	1,680,540	1,680,540
	2. Member Reserves	304,430	304,430
	3. Other Non-MPRIF Reserves	2,340,746	2,180,230
	4. Total Assets Available for Benefits	\$4,325,716	\$4,165,200
— E.	DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
L.	DETERMINATION OF MOTORAGE VIEWER OF MODELS		
	1. Market Value of Assets Available for Benefits (D4)		\$4,325,716
	2. Unrecognized Asset Returns (UAR)		
	a. June 30, 2000	\$42,251	
	b. June 30, 1999	244,273	
	3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)		180,365
	4. Actuarial Value of Assets (E1 - E3)	:	4,145,351
	(Same as "Current Assets")		

# Statement of Change In Plan Net Assets

(dollars in thousands)

# YEAR ENDING JUNE 30, 2000

		Non-MPRIF Assets	MPRIF Reserve	Market Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$2,523,296	\$1,400,528	\$3,923,824
B.	ADDITIONS			
	1. Member Contributions	\$31,214	\$0	\$31,214
	2. Employer Contributions	53,178	0	53,178
	3. Contributions From Other Sources	0	0	0
	4. MPRIF Income	0	235,184	235,184
	5. Net Investment Income	222.005	^	222.005
	a. Interest and Dividends	332,985	0	332,985 126,578
	b. Net Realized Gain (Loss)	126,578 (205,443)	0	(205,443)
	c. Net Change in Unrealized Gain (Loss)	(3,514)	0	(3;514)
	d. Investment Expenses e. Net Subtotal	250,606		250,606
	6. Other	250,000	0	0
	7. Total Additions	\$334,998	\$235,184	\$570,182
C.	OPERATING EXPENSES		<del>\$255,101</del>	\$370,102
Ċ.	Service Retirements	\$1,863	\$139,064	\$140,927
	2. Disability Benefits	14,934	0	14,934
	3. Survivor Benefits	9,858	0	9,858
	4. Refunds	846	0	846
	5. Administrative Expenses	679	0	679
	6. Other	1,046	0	1,046
	7. Total Disbursements	\$29,226	\$139,064	\$168,290
D.	OTHER CHANGES IN RESERVES			
	1. Annuities Awarded	(199,289)	199,289	0
	2. Mortality Gain/Loss	15,397	(15,397)	0
	3. Total Other Changes	(183,892)	183,892	0
E.	ASSETS AVAILABLE AT END OF PERIOD	\$2,645,176	\$1,680,540	\$4,325,716
F.	DETERMINATION OF CURRENT YEAR UN	RECOGNIZED ASSE	T RETURN	
	<ol> <li>Average Balance</li> <li>(a) Non-MPRIF Assets Available at Beginning</li> </ol>	ng of Period		2,523,296
	(b) Non-MPRIF Assets Available at End of I	Period*		2,629,779
	(c) Average Balance { [F1.a + F1.b - B5.e - ]	R61 / 2 \		2,451,235
	2. Expected Return: .085 * F1.c	DOJ / 2 }		208,355
	3. Actual Return			250,606
	4. Current Year Unrecognized Asset Return: F3	3 - F2		42,251
	<b>~</b>			

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\* Before adjustment for MPRIF mortality gain/loss

# **ACTIVE MEMBERS AS OF JUNE 30, 2000**

Years	of S	ervice
-------	------	--------

-									
Age -	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
<25	144	115	0	0	0	0	0	0	259
25-29	228	970	175	0	0	0	0	0	1,373
30-34	148	725	783	207	0	0	0	0	1,863
35-39	69	324	525	711	175	0	0	0	1,804
40-44	23	142	240	437	482	229	2	0	1,555
45-49	57	109	92	192	279	660	183	0	1,572
50-54	4	32	37	68	107	304	353	47	952
55-59	1	12	14	28	25	34	37	35	186
60-64	1	3	5	13	3	6	5	4	40
65+	1	3	5	3	3	6	0	2	23
ALL	676	2,435	1,876	1,659	1,074	1,239	580	88	9,627

#### **AVERAGE ANNUAL EARNINGS**

#### Years of Service

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
<25	24,068	34,358	0	0	0	0	0	0	28,637
25-29	23,790	39,825	46,023	0	0	0	0	0	37,952
30-34	23,183	41,206	50,269	52,043	0	0	0	0	44,787
35-39	21,081	42,929	50,283	54,360	53,267	0	0	0	49,742
40-44	23,267	43,947	49,861	53,620	57,089	56,847	53,381	0	53,258
45-49	22,597	42,876	47,080	52,403	55,595	57,676	55,953	0	53,544
50-54	35,480	44,189	48,330	46,632	53,241	58,563	59,455	61,147	56,593
55-59	18,469	47,768	47,703	35,673	42,769	50,617	56,313	57,276	49,123
60-64	38,602	23,791	43,329	32,988	24,038	43,666	52,022	60,040	39,746
65+	22,579	38,041	37,619	23,803	26,626	49,106	0	65,476	39,203
ALL	23,403	40,843	49,559	52,795	55,184	57,437	58,065	59,656	48,321

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

<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25-29</u>	<u>30+</u>	ALL
All	15,820	99,453	92,973	87,587	59,268	71,164	33,678	5,250	465,186

# **SERVICE RETIREMENTS AS OF JUNE 30, 2000**

Vears	Retire	h

<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	5	2	0	0	0	0	0	7
50-54	209	211	6	7	7	0	0	440
55-59	161	490	149	20	6	4	1	831
60-64	29	259	379	89	11	7	0	774
65-69	8	87	207	231	71	15	4	623
70-74	1	7	99	164	209	69	13	562
75-79	0	0	19	93	133	117	36	398
80-84	0	0	1	10	67	78	55	211
85+	1	0	0	5	6	49	84	145
ALL	414	1,056	860	619	510	339	193	3,991

#### **AVERAGE ANNUAL BENEFIT**

#### Years Retired

Age '	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	10,049	19,717	0	0	0	0	0	12,811
50-54	36,179	30,268	21,200	32,010	25,637	0	0	32,906
55-59	35,565	38,424	31,115	27,884	26,763	35,157	26,283	36,191
60-64	24,963	39,401	38,507	32,294	32,103	33,497	0	37,448
65-69	24,169	35,321	37,718	34,573	35,190	34,459	28,673	35,619
70-74	24,437	35,090	37,408	35,348	37,100	35,141	30,396	36,200
75-79	0	0	36,017	33,842	35,183	32,433	32,788	33,884
80-84	0	0	24,024	35,145	28,264	32,321	30,286	30,597
85+	4,662	0	0	22,404	30,178	29,685	27,242	27,867
ALL	34,502	36,721	36,717	34,007	34,705	32,705	29,381	35,115

# TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	14,283	38,777	31,576	21,050	17,699	11,086	5,670	140,143

# **SURVIVORS AS OF JUNE 30, 2000**

#### **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>	20-24	<u>25+</u>	<u>ALL</u>
<50	7	16	24	16	8	1	0	72
50-54	1	9	20	17	10	4	1	62
55-59	0	13	25	12	6	5	2	63
60-64	0	6	23	32	17	9	3	90
65-69	1	2	16	32	32	23	19	125
70-74	0	1	12	48	60	39	37	197
75-79	0	1	12	35	64	44	49	205
80-84	0	0	9	10	38	57	76	190
85+	0	2	8	18	20	30	123	201
ALL	9	50	149	220	255	212	310	1,205

#### **AVERAGE ANNUAL BENEFIT**

#### Years Since Death

Age	<u>&lt;1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	18,851	29,577	27,914	21,862	14,354	2,369	0	24,196
50-54	28,315	30,623	27,351	23,025	24,703	18,407	23,967	25,597
55-59	0	26,787	24,439	22,150	24,542	19,071	20,165	23,936
60-64	0	19,547	21,852	22,997	20,406	15,513	11,162	20,842
65-69	40,279	24,142	25,229	21,814	22,154	17,896	16,971	21,066
70-74	0	16,833	15,334	19,880	19,923	18,331	14,314	18,249
75-79	0	13,985	15,258	19,136	18,412	17,706	16,155	17,638
80-84	0	0	16,811	13,181	17,798	17,744	16,212	16,858
85+	0	6,169	15,385	14,696	16,943	13,178	14,968	14,802
ALL	22,283	26,116	22,656	20,279	19,427	17,091	15,531	18,867

# TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

Age	<1	1-4	5-9	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
	the exercise of the	and the second of the second of the second of	100	1986 Sept. 1986	a a composition in the recognition of	1 2 2 1 0 25 1 29 354	56 F F TANK (12 M 2007)	22.524
All	200	1,305	3,375	4,461	4,953	3,623	4,814	22,734

# **DISABILITY RETIREMENTS AS OF JUNE 30, 2000**

	-		-
Years	Dico	hI	Δd
I CAIS	17134	.171	cu

Age	<u>&lt;1</u>	1-4	<u>5-9</u>	10-14	<u>15-19</u>	20-24	<u>25+</u> <u>ALL</u>
<50	35	73	26	18	2	1	0 155
50-54	34	97	29	10	2	1	1 174
55-59	7	59	33	2	0	0	0 101
60-64	3	20	22	0	0	0	0 45
65-69	2	5	0	0	0	0	0 7
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
85+	0	0	0	0	0	0	0
ALL	81	254	110	30	4	2	1 482

# **AVERAGE ANNUAL BENEFIT**

#### Years Disabled

Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
<50	23,773	27,363	25,167	24,851	23,416	40,195	0	25,924
50-54	38,213	36,429	32,235	28,276	32,610	22,027	13,108	35,349
55-59	45,268	39,931	38,914	32,281	0	0	0	39,817
60-64	44,166	37,096	37,258	0	0	0	0	37,647
65-69	29,402	28,970	0	0	0	0	0	29,093
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	32,586	34,543	33,573	26,488	28,013	31,111	13,108	33,378

# TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	2,639	8,773	3,693	794	112	62	13	16,088

# **Reconciliation Of Members**

			Termin	ated
			Deferred	Other
		Actives	Retirement	Non-Vested
A.	ON JUNE 30, 1999	9,477	368	195
B.	ADDITIONS	638	267	103
C.	DELETIONS			
	1. Service Retirement	(238)	(5)	(1)
	2. Disability	(46)	Ô	(1)
	3. Death	(7)	0	(1)
	4. Terminated - Deferred	(82)	0	0
	5. Terminated - Refund	(43)	0	(1)
	6. Terminated - Other Non-Vested	(47)	0	0
	7. Returned as Active	0	(72)	(28)
	8. Transferred to Other Fund	0	0	0
D.	DATA ADJUSTMENTS	(25)	(88)	360
	Mand	7 022		
	Vested	7,833		
	Non-Vested	1,794		
E.	TOTAL ON JUNE 30, 2000	9,627	470	626
			Recipients	
		Retirement	reorprents	
		Annuitants	Disabled	Survivors
A.	ON JUNE 30, 1999	3,674	412	1,173
B.	ADDITIONS	435	88	78
C.	DELETIONS			
C.	1. Service Retirement	0	(12)	0
	2. Death	(110)	(5)	(48)
	3. Annuity Expired	0	0	0
	4. Returned as Active	0	0	0
D.	DATA ADJUSTMENTS	(8)	(1)	2
E.	TOTAL ON JUNE 30, 2000	3,991	482	1,205

# Actuarial Balance Sheet

(dollars in thousands)

#### JULY 1, 2000

A.	CURRENT ASSETS (TABLE 1, E6)		\$4,145,351			
B.	EXPECTED FUTURE ASSETS  1. Present Value of Expected Future Statutory Supplemental Contributions (Sec. 2. Present Value of Future Normal Costs  3. Total Expected Future Assets	ee Table 11)	-	(\$470,815) 1,160,739 \$689,924		
C.	TOTAL CURRENT AND EXPECTED FUTUI	RE ASSETS	<del>-</del> -	\$4,835,275		
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total		
	<ol> <li>Benefit Recipients         <ul> <li>a. Retirement Annuities</li> <li>b. Disability Benefits</li> <li>c. Surviving Spouse</li></ul></li></ol>	\$1,573,476 148,690 215,453	\$1,573,476 148,690 215,453			
	2. Deferred Retirements with Future Augmenta	45,221	45,221			
	3. Former Members without Vested Rights		572	572		
	<ul> <li>4. Active Members</li> <li>a. Retirement Annuities</li> <li>b. Disability Benefits</li> <li>c. Survivor's Benefits</li> <li>d. Deferred Retirements</li> <li>e. Refund Liability Due</li> <li>to Death or Withdrawal</li> </ul>	1,072,806 0 0 42,572 1,270	1,081,228 100,247 39,414 44,293 1,270			
	5. Total Current Benefit Obligations	\$149,804	\$3,100,060	\$3,249,864		
E.	EXPECTED FUTURE BENEFIT OBLIGATION	-	\$1,294,062			
F.	TOTAL CURRENT AND EXPECTED FUTU	TIONS	\$4,543,926			
G.	G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)					
H.	CURRENT AND FUTURE UNFUNDED ACT	(F-C)	(\$291,349)			

# Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

#### JULY 1, 2000

		Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A.	DETERMINATION OF ACTUARIAL	(1)	(2)	(3)=(1)-(2)
	ACCRUED LIABILITY (AAL)			
	1. Active Members			
	a. Retirement Annuities	\$2,215,104	\$920,486	\$1,294,618
	b. Disability Benefits	194,304	117,729	76,575
	c. Survivor's Benefit	76,166	45,623	30,543
	d. Deferred Retirements	72,367	73,882	(1,515)
	e. Refunds Due to Death or Withdrawal	2,572	3,019	(447)
	f. Total	\$2,560,513	\$1,160,739	\$1,399,774
	2. Deferred Retirements With Future Augmentation	45,221		45,221
	3. Former Members Without Vested Rights	572		572
	4. Annuitants in MPRIF	1,680,540		1,680,540
	5. Recipients Not in MPRIF	257,080		257,080
	6. Total	\$4,543,926	\$1,160,739	\$3,383,187
_		DIAL ACCRETED I		
B.	DETERMINATION OF UNFUNDED ACTUA	RIAL ACCRUED L	IABILITY (UAAL)	#2 202 107
	1. AAL (A6)			\$3,383,187
	2. Current Assets (Table 1, E6)		-	4,145,351
	3. UAAL (B1-B2)		:	(\$762,164)
C.	DETERMINATION OF SUPPLEMENTAL CO 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2030	ONTRIBUTION RAT	Œ	\$10,324,899
	2. Supplemental Contribution Rate (B3/C1)			-7.38%

# Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

# YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	(\$674,914)
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	<ol> <li>Normal Cost and Expenses</li> <li>Contribution</li> <li>Interest on A, B1 and B2</li> </ol>	\$97,316 (84,392) (56,818)
	4. Total (B1+B2+B3)	(\$43,894)
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	(\$718,808)
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	<ol> <li>Salary Increases</li> <li>Investment Return</li> <li>MPRIF Mortality</li> <li>Mortality of Other Benefit Recipients</li> <li>Other Items</li> </ol>	(\$9,535) (199,806) (15,397) 11,451 96,577
	6. Total	(\$116,710)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	(\$835,518)
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	73,354
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	(\$762,164)

# **Determination Of Contribution Sufficiency**

(dollars in thousands)

JULY 1, 2000

	·	Percent of Payroll	Dollar Amount
A.	STATUTORY CONTRIBUTIONS - CHAPTER 353		
	1. Employee Contributions	6.20%	\$30,636
	2. Employer Contributions	9.30%	45,954
	3. Total	15.50%	\$76,590
В.	REQUIRED CONTRIBUTIONS - CHAPTER 356		·
	1. Normal Cost	15.020/	#70 O1 4
	a. Retirement Benefits	15.83% 2.02%	\$78,214 9,971
	<ul><li>b. Disability Benefits</li><li>c. Survivors</li></ul>	0.80%	3,975
	d. Deferred Retirement Benefits	1.22%	6,051
	e. Refunds Due to Death or Withdrawal	0.05%	251
	f. Total	19.92%	\$98,462
	2. Supplemental Contribution Amortization by July 1, 2030 of UAAL	-7.38%	(36,467)
	3. Allowance for Expenses	0.14%	692
	4. Total	12.68%	\$62,687
C.	CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	2.82%	\$13,903

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is \$494,134.

# Summary of Actuarial Assumptions and Methods

Interest: Pre-Retirement: 8.5% per annum

Post-Retirement: 8.5% per annum

Benefit Increases Payment of earnings on retired reserves in excess of

After Retirement: 6% accounted for by 6% post-retirement assumption.

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 rate table below.

Mortality: Pre-Retirement:

Male - 1983 Group Annuity Mortality Table for males

setback five years.

Female - 1983 Group Annuity Mortality Table for females

setback five years.

**Post-Retirement:** 

Male - 1983 Group Annuity Mortality Table for males

Female - 1983 Group Annuity Mortality Table for females

Post-Disability:

Male - 1965 RRB rates

Female - 1965 RRB rates

Retirement Age: Rates as shown in table.

Separation: Graded rates based on plan experience through June 30, 1992.

Rates are shown in rate table.

**Disability**: Rates as shown in rate table.

Expenses: Prior year expenses expressed as percentage of prior year payroll.

Return of All employees withdrawing after becoming eligible for

Contributions: a deferred benefit were assumed to take the larger of their

contributions accumulated with interest or the value of their

deferred benefit.

Family Composition:

85% of male Members and 65% of female Members are assumed to be married. Female is four years younger than male. Assume

Members have no children.

Social Security:

N/A

Special Consideration:

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

Males -

40% elect 50% J&S option

45% elect 100% J&S option

Females -

15% elect 50% J&S option

15% 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:

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 6.0% 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.

# Summary of Actuarial Assumptions and Methods

Separations Expressed as the Number of Occurrences per 10,000:

	Pre-Retirement <u>Death</u>		Wit	hdrawal	<u>D</u> i	sability	Ret	<u>irement</u>	Salary Increases
<u>Age</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	3	. 1	859	859	11	11	0	0	11.50%
21	3	1	750	750	11	11	0	0	11.50
22	3	2	660	660	12	12	0	0	11.00
23	4	2	583	583	12	12	0	0	10.50
24	4	2	519	519	13	13	0	0	10.00
25	4	2	463	463	13	13	0	0	9.50
26	4	2	416	416	14	14	0	0	9.20
27	4	2	374	374	14	14	0	0	8.90
28	4	2	339	339	14	14	0	0	8.60
29	4	2	307	307	15	15	0	0	8.30
30	5	3	280	280	16	16	0	0	8.00
31	5	3	256	256	16	16	0	0	7.80
32	5	3	234	234	17	17	0	0	7.60
33	5	3	215	215	17	17	0	0	7.40
34	6	3	198	198	18	18	0	0	7.20
35	6	3	183	183	19	19	0	0	7.00
36	6	4	169	169	20	20	0	0	6.80
37	7	4	157	157	22	22	0	0	6.60
38	7	4	146	146	23	23	0.	0	6.40
39	8	4	135	135	24	24	0	0	6.20
40	9	5	126	126	26	26	0	0	6.00
41	9	5	118	118	28	28	0	. 0	5.90
42	10	5	110	110	29	29	0	0	5.80
43	10	6	103	103	31	31	0	0	5.70
44	11	6	97	97	34	34	0	0	5.60
45	12	7	91	91	36	36	0	0	5.50
46	14	7	86	86	41	41	0	0	5.45
47	15	8	81	81	46	46	0	0	5.40
48	17	8	69	69	52	52	0	0	5.35
49	19	9	59	59	60	60	0	0	5.30

# Summary of Actuarial Assumptions and Methods

# Separations Expressed as the Number of Occurrences per 10,000:

	Pre-Retirement <u>Death</u>		_Wit	hdrawal	<b>D</b> i	sability	<u>Reti</u>	rement	Salary Increases
Age	Male	<u>Female</u>	Male	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	
50	22	10	50	50	69	69	500	500	5.25%
51	25	11	39	39	80	80	500	500	5.25
52	28	12	29	29	91	91	500	500	5.25
53	31	14	22	22	104	104	500	500	5.25
54	35	15	15	15	119	119	500	500	5.25
55	39	16	11	11	135	135	3,000	3,000	5.25
56	43	18	7	7	152	152	1,000	1,000	5.25
57	48	19	5	5	171	171	1,000	1,000	5.25
58	52	21	3	3	192	192	1,000	1,000	5.25
59	57	23	1	1	215	215	1,000	1,000	5.25
60	61	25	0	0	0	0	2,000	2,000	5.25
61	66	28	0	0	0	0	2,000	2,000	5.25
62	71	31	0	0	0	0	5,000	5,000	5.25
63	77	34	0	0	0	0	5,000	5,000	5.25
64	84	38	0	0	0	0	5,000	5,000	5.25
65	92	42	0	0	0	0	5,000	5,000	5.25
66	101	47	0	0	0	0	5,000	5,000	5.25
67	111	52	0	0	0	0	5,000	5,000	5.25
68	124	58	0 -	0	0	0	5,000	5,000	5.25
69	134	64	0	0	0	0	5,000	5,000	5.25
70	156	71	0	0	0	0	10,000	10,000	5.25

# Summary of Plan Provisions

# **GENERAL**

Eligibility:

All full-time and certain part-time, police officers and fire

fighters, who are not contributing to any other local retirement

fund.

Contributions:

Member:

6.2% of salary effective July 1, 1999.

Employer:

9.3% of salary effective July 1, 1999.

Allowable Service:

Police and fire service during which Member contributions

were deducted. May also include certain leaves of absence and

military service.

Salary:

Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick

leave payments funded by the employer. Excludes lump-sum annual leave and sick leave payments and Workers' Compen-

sation benefits.

Average Salary:

Average of the five highest successive years of

salary. Average salary is based on all Allowable Service if less

than five years.

### RETIREMENT

# Normal Retirement Benefit:

Eligibility:

Age 55 and three years of Allowable Service. Proportionate

Retirement Annuity is available at age 65 and one year of

Allowable Service.

Amount:

3.0% of Average Salary for each year of Allowable Service.

### Early Retirement Benefit:

Eligibility:

Age 50 and three years of Allowable Service.

Amount:

Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date and a 0.1%\* reduction for each month the Member is under age 55.

Form of Payment:

Life annuity with return on death of any balance of contributions over aggregate monthly payments.

Actuarially equivalent options are:

25%, 50%, 75% or 100% joint and survivor with bounce

back feature without additional reduction.

Benefit Increases:

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Benefit recipients receiving benefits for at least one full month but less than 12 full months will receive a partial increase.

Members retired under law in effect before July 1, 1973 receive an additional lump-sum payment each year. In 1989, this lump-sum payment is the greater of \$25 times each full year of Allowable Service or the difference between \$400 times each full year of Allowable Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump-sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

<sup>\*</sup>Effective July 1, 1999. From July 1, 1996 through June 30, 1999, the reduction is 0.2% for each month the Member is under age 55. Prior to July 1, 1996, an actuarial reduction is used assuming augmentation of the normal benefit to age 55 at 3% per year.

# **DISABILITY**

#### Duty Disability Benefit:

Eligibility: Physically or mentally unable to perform duties as a police

officer or fire fighter as a direct result of an act of duty.

Amount: 60% of Average Salary plus 3.0% of Average Salary for

each year in excess of 20 years of Allowable Service. The disability benefit is reduced to that amount which when added to Workers' Compensation and actual earnings, does not exceed salary or 125% of pay for an employee at same position. Payments change to retirement annuity at age 65.

If a Member became disabled prior to July 1, 1997 but did not commence their benefit before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in post-retirement interest rates from 5% to 6%.

# Non-Duty Disability Benefits:

Eligibility: Physically or mentally unable to perform duties as a police

officer or fire fighter with one year of Allowable Service.

Amount: Normal Retirement benefit based on Allowable Service

(minimum of 15 years) and average salary at disability without reduction for commencement before age 55. Payments change to retirement annuity at age 65.

If a Member became disabled prior to July 1, 1997 but did not commence their benefit before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in post-retirement interest rates from 5% to 6%.

Form of Payment: Same as for retirement.

Benefit Increases: Adjusted by PERA to provide same increase as MPRIF.

#### Retirement Benefits:

Eligibility:

Age 55

Amount:

Any optional annuity continues. Otherwise, the larger of the disability benefit paid before age 55 or the normal retirement benefit available at age 55, or an actuarially

equivalent optional annuity.

Benefit Increases:

Same as for retirement.

# **DEATH**

# Surviving Spouse Benefit:

Eligibility:

Active or Disabled Member with surviving spouse, married

for at least one year unless death in the line of duty.

Amount:

50% of salary averaged over last six months. Benefit paid

until spouse's death but no payments while spouse is

remarried prior to July 1, 1991.

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement

interest rates from 5% to 6%.

### Surviving Dependent Child Benefit:

*Eligibility*:

Active or Disabled Member with dependent child.

Amount:

10% of salary averaged over last six months for each child. Family benefit minimum (including spouse's benefit) of 50% of salary and maximum of 70% of salary. Benefits paid until child marries, dies, or attains age 18 (age 23 if

full-time student.)

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

# Surviving Spouse Optional Annuity:

Eligibility: Active or Disabled Member dies before age 55, benefits

commence when Member would have been age 55 or as early as age 50 if qualified for early retirement except that benefits commence immediately if Member had 30 years of

service.

Amount: Survivor's payment of the 100% joint and survivor benefit

the Member could have elected if terminated.

Alternatively, spouse may elect refund of deceased's contributions with interest if there are no dependent

children.

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement

interest rates from 5% to 6%.

Benefit Increases: Adjusted by PERA to provide same increase as MPRIF.

#### **TERMINATION**

# Refund of Contributions:

Eligibility: Termination of public 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 three or more years of Allowable Service.

# Deferred Annuity:

Eligibility:

Three years of Allowable Service.

Amount:

Benefit computed under law in effect at termination and increased by the following percentage compounded

annually: 0% before 7/1/71; 5% from 7/1/71 to 1/1/81; and 3% thereafter until January of the year following attainment

of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

If a Member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, an actuarial increase shall be made for the change in the

post-retirement interest rates from 5% to 6%.

# SUMMARY OF SIGNIFICANT CHANGES

No significant changes were recognized for this valuation.

# **SCHEDULE OF FUNDING PROGRESS**

(dollars in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (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	\$ 839,560	\$ 794,295	\$ (45,265)	105.70%	238,230	-19.00%
07/01/92	979,981	888,826	(91,155)	110.26	239,158	-38.11
07/01/93	1,118,342	1,009,226	(109,116)	110.81	253,666	-43.02
07/01/94	1,234,961	1,099,221	(135,740)	112.35	277,566	-48.90
07/01/95	1,385,901	1,196,795	(189,106)	115.80	293,919	-64.34
07/01/96	1,633,010	1,334,202	(298,808)	122.40	316,189	-94.50
07/01/97	1,974,635	1,556,483	(418,152)	126.87	346,319	-120.74
07/01/98	2,337,313	1,741,344	(595,969)	134.22	375,131	-158.87
07/01/99	3,679,551	3,004,637	(674,914)	122.46	352,066	-191.70
07/01/00	4,145,351 <sup>(1)</sup>	3,383,187	(762,164)	122.53	392,796	-194.04

<sup>(1)</sup> Excludes amounts receivable from municipalities with positive amortizable bases.

# SCHEDULE OF EMPLOYER CONTRIBUTIONS

(dollars in thousands)

Year Ended June 30	Actuarially Required Contribution Rate (A) <sup>(1)</sup>	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contribution [(A)x(B)]-(C)	Actual Employer Contribution <sup>(2)</sup>	Percentage Contributed
1991	17.56%	\$238,230	\$17,636	\$24,197	\$26,440	109.27%
1992	17.54	239,158	19,217	22,731	28,766	126.55
1993	18.60	253,666	20,406	26,776	30,434	113.66
1994	17.45	277,566	21,806	26,629	32,536	122.18
1995	17.28	293,919	22,356	28,433	33,548	117.99
1996	16.49	316,189	24,065	28,075	36,066	128.46
1997	15.11	346,319	26,354	25,975	39,508	152.10
1998	15.69 <sup>(3)</sup>	375,131	28,552	30,306	42,786	141.18
1999	12.32 <sup>(3)</sup>	352,066	30,897	12,478	46,280	370.89
2000	12.87 <sup>(3)</sup>	392,796	31,214	19,339	53,178	274.98
2001	12.21(3),(4),(5)					

<sup>(1)</sup> Actuarially Required Contributions determined for years ended 6/30/95, 6/30/96, and 6/30/97 did not comply with the parameters of GASB Statement No. 25 since a one percent growth in covered population is assumed in the amortization calculation.

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<sup>(2)</sup> Includes contributions from other sources (if applicable).

<sup>(3)</sup> Actuarially Required Contribution Rate calculated according to parameters of GASB 25 with no assumption for growth of covered population.

<sup>(4)</sup> Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 11.41%.

<sup>(5)</sup> Excludes amounts receivable from municipalities with positive amortizable bases.

# LOCAL GOVERNMENT CORRECTIONAL SERVICE RETIREMENT FUND ACTUARIAL VALUATION REPORT

July 1, 2000





**Actuaries & Consultants** 

#### Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 262/784-2250 Fax: 262/784-7287

November 30, 2000

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

RE: Local Government Correctional Service 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, 2000.

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 Public Employees Retirement 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.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

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

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# Report Highlights (dollars in thousands)

		07/01/1999 Valuation	07/01/2000 Valuation
A.	CONTRIBUTIONS (Table 11)  1. Statutory Contributions - Chapter 353  % of Payroll	14.58%	14.58%
	<ol><li>Required Contributions - Chapter 356</li><li>% of Payroll</li></ol>	15.03%	14.37%
	3. Sufficiency (Deficiency): (A.1 A.2.)	-0.45%	0.21%
B.	FUNDING RATIOS  1. Accrued Benefit Funding Ratio	<b>7</b> 0	<b>011 11</b>
	a. Current Assets (Table 1)	<b>\$</b> 0	\$11,116
	b. Current Benefit Obligations (Table 8)	\$0 N/A	\$10,337 107.54%
	c. Funding Ratio: (a/b)	IN/A	107.34%
	2. Accrued Liability Funding Ratio a. Current Assets (Table 1)	\$0	\$11,116
	b. Actuarial Accrued Liability (Table 9)	\$0	\$10,195
	c. Funding Ratio: (a/b)	N/A	109.03%
	<ul> <li>3. Projected Benefit Funding Ratio (Table 8)</li> <li>a. Current and Expected Future Assets</li> <li>b. Current and Expected Future Benefit Obligations</li> <li>c. Funding Ratio: (a/b)</li> </ul>	\$83,846 \$86,484 96.95%	\$110,180 \$106,557 103.40%
C.	PLAN PARTICIPANTS  1. Active Members  a. Number (Table 3)  b. Projected Annual Earnings  c. Average Annual Earnings (Projected \$)  d. Average Age  e. Average Service	2,280 \$68,915 \$30,226 38.1 0.0	2,781 \$80,818 \$29,061 37.5 0.9
	<ul> <li>2. Others</li> <li>a. Service Retirements (Table 4)</li> <li>b. Survivors (Table 5)</li> <li>c. Disability Retirements (Table 6)</li> <li>d. Deferred Retirements (Table 7)</li> <li>e. Terminated Other Non-vested (Table 7)</li> <li>f. Total</li> </ul>	0 0 0 0 0	9 0 3 0 0

# 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 107.54%.
- 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 2000 the ratio is 109.03%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 103.40% 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 non-MPRIF assets over five years, in a manner similar to that already being used within the MPRIF. 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 G.1 to G.4. Actuarial Value of Assets is determined as:

Market Value of Assets at June 30, 2000, less

80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and 06/30/2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); less

60% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on 06/30/99 and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

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 "Current Assets," the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e., MPRIF). After the MPRIF liability has been calculated for each participating plan, the State Board of Investments, (i.e., SBI), will determine each plan's portion of the excess earnings for the January benefit increase as well as the plan's allocated market share of MPRIF.

#### Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

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. 25 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 has been superceded 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.

The payments will increase 6.00% 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

#### 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.

# 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 14.58% compared to the Required Contribution Rate of 14.37%.

#### Changes in Actuarial Assumptions and Methods

All actuarial assumptions and methods listed in Table 12 are the same as those used in the prior valuation.

Effective with this July 1, 2000 valuation, the following method changes have been incorporated:

- Asset Valuation Method is changed to employ a more effective asset smoothing technique which is market-value based and which eliminates artificial bias related to manager style.
- The actuarial funding method was modified to reflect a 30-year amortization credit of the surplus of the Actuarial Value of Assets over the Actuarial Accrued Liability.

#### Changes in Plan Provisions

All plan provisions are the same as those used in the prior actuarial valuation of the Fund.

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# Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2000

		Market Value	Cost Value
A.	ASSETS IN TRUST	#10 F22	#10 F22
	1. Cash, Equivalents, Short-term Securities	\$10,533	\$10,533
	2. Fixed Income	0	0
	<ul><li>3. Equity</li><li>4. Real Estate</li></ul>	0	0
	5. Equity in MPRIF	45	45
	6. Other	0	0
	Subtotal	\$10,578	\$10,578
B.	ASSETS RECEIVABLE	474	474
C.	LIABILITIES	(116)	(116)
D.	NET ASSETS HELD IN TRUST FOR PENSION BENEFITS	45	45
	1. MPRIF Reserves	45	45
	2. Member Reserves	4,055	4,055
	3. Other Non-MPRIF Reserves	6,836	6,836
	4. Total Assets Available for Benefits	\$10,936	\$10,936
E.	DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
	<ol> <li>Market Value of Assets Available for Benefits (D4)</li> <li>Unrecognized Asset Returns (UAR)</li> </ol>	(#225)	\$10,936
	a. June 30, 2000	(\$225)	
	b. June 30, 1999  3. LIAB Adjustment: 80 * (F2 a) + 60 * (F2 b)	0	(180)
	<ol> <li>UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)</li> <li>Actuarial Value of Assets (E1 - E3)</li> </ol>		11,116
	(Same as "Current Assets")		
	(built as Cultell Assets )		

# Statement of Change In Plan Net Assets

(dollars in thousands)

# YEAR ENDING JUNE 30, 2000

		Non-MPRIF Assets	MPRIF Reserve	Market Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$0	\$0	\$0
B.	ADDITIONS			
	<ol> <li>Member Contributions</li> <li>Employer Contributions</li> </ol>	\$4,382 6,487	\$0 0	\$4,382 6,487
	<ol> <li>Contributions From Other Sources</li> <li>MPRIF Income</li> <li>Net Investment Income</li> </ol>	0 0	0 0	0 0
	a. Interest and Dividends	197 0	0	197 0
	<ul><li>b. Net Realized Gain (Loss)</li><li>c. Net Change in Unrealized Gain (Loss)</li></ul>	0	0	0
	<ul><li>d. Investment Expenses</li><li>e. Net Subtotal</li></ul>	(1) 196	0 0	196
	<ul><li>6. Other</li><li>7. Total Additions</li></ul>	32 \$11,097	0 <b>\$</b> 0	32 \$11,097
C.	OPERATING EXPENSES  1. Service Retirements	\$2	\$0	\$2
	2. Disability Benefits	18	0	18
	<ul><li>3. Survivor Benefits</li><li>4. Refunds</li></ul>	0 30	0	30
	<ul><li>5. Administrative Expenses</li><li>6. Other</li></ul>	111 0	0	111
_	7. Total Disbursements	\$161	\$0	\$161
D.	OTHER CHANGES IN RESERVES  1. Annuities Awarded  2. Mortality Gain/Loss	(47) 2	47 (2)	0
E.	3. Total Other Changes ASSETS AVAILABLE AT END	(45) \$10,891	45 \$45	0 \$10,936
	OF PERIOD			<b>Q10,330</b>
F.	DETERMINATION OF CURRENT YEAR UN  1. Average Balance (a) Non-MPRIF Assets Available at Beginnir		T RETURN	0
	(b) Non-MPRIF Assets Available at End of F	eriod*		10,889
	(c) Average Balance { [F1.a + F1.b - B5.e - F1.b -	36] / 2 }		5,331
	2. Expected Return: .085 * F1.c			453
	<ul><li>3. Actual Return</li><li>4. Current Year Unrecognized Asset Return: F3</li></ul>	5 - F2		228 (225)
	* Before adjustment for MPRIF mortality gain/los	ss		

TABLE 3

# LOCAL GOVERNMENT CORRECTIONAL SERVICE RETIREMENT FUND <u>ACTIVE MEMBERS AS OF JUNE 30, 2000</u>

	Years of Service								
Age	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
<25	158	62	0	0	0	0	0	0	220
25-29	249	264	0	0	0	0	0	0	513
30-34	181	335	0	0	0	0	0	0	516
35-39	106	289	0	0	0	0	0	0	395
40-44	87	275	0	0	0	0	0	0	362
45-49	95	283	0	0	0	0	0	0	378
50-54	46	194	0	0	0	0	0	0	240
55-59	17	85	0	0	0	0	0	0	102
60-64	7	39	0	0	0	0	0	0	46
65+	3	6	0	0	0	0	0	0	9
ALL	949	1,832	0	0	.0	0	0	0	2,781

# **AVERAGE ANNUAL EARNINGS**

	Years of Service								
Age '	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
<25	13,945	21,669	0	0	0	0	0	0	16,122
25-29	17,035	27,703	0	0	0	0	0	0	22,525
30-34	17,588	31,691	0	0	0	0	0	0	26,744
35-39	18,829	34,627	0	0	0	0	0	0	30,388
40-44	18,303	34,373	0	0	0	0	0	0	30,511
45-49	18,083	33,859	0	0	0	0	0	0	29,894
50-54	22,057	36,595	0	0	0	0	0	0	33,809
55-59	23,509	36,428	0	0	0	0	0	0	34,275
60-64	14,521	33,899	0	0	0	0	0	0	30,950
65+	9,928	19,352	0	0 ************************************	0	0	0	0	16,211
ALL	17,366	32,724	0	0	0	0	0	0	27,482

	Pl	RIOR FISCA	AL YEAR	EARNINGS	(IN THOU	JSANUS) E	SY YEARS	OF SERV	ICE
Age	<1	1-4	<u>5-9</u>	10-14	<u>15-19</u>	20-24	<u>25-29</u>	<u> 30+</u>	ALL
All	16,480	<u></u> 59,950	0	. 0	0	0	0	0	76,427

TABLE 4

# LOCAL GOVERMENT CORRECTIONAL SERVICE RETIREMENT FUND

# **SERVICE RETIREMENTS AS OF JUNE 30, 2000**

				Years 1	Retired			
Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	25+	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	2	0	0	0	0	0	0	2
60-64	6	0	0	0	0	0	0	6
65-69	1	0	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	9	Ó	0	0		0	0	9

# **AVERAGE ANNUAL BENEFIT**

_				Years I	Retired			
Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	342	0	0	0	0	0	0	342
60-64	519	0	0	0	0	0	0	519
65-69	44	0	0	0	0	0	0	44
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	427	0	0	0	0	0	- 0	427

# TOTAL ANNUAL BENEFIT (IN DOLLARS) BY YEARS RETIRED

Age -	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	3,843	0	0	0	0	0	0	3,843

TABLE 5
LOCAL GOVERMENT CORRECTIONAL SERVICE RETIREMENT FUND

# **SURVIVORS AS OF JUNE 30, 2000**

_				Years Sin	ce Death			
<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<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	0	0	0	0
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	0	0	0	0

# **AVERAGE ANNUAL BENEFIT**

				Years Sin	ce Death			
<u>Age</u>	<u>&lt;1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<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	0	0	0	0
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	0	0	0	0

TOTAL ANNUAL BENEFIT (IN DOLLARS) BY YEARS SINCE DEATH

Age	<u>&lt;1</u>	1-4	<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	0	0	0	0

# LOCAL GOVERMENT CORRECTIONAL SERVICE RETIREMENT FUND

# DISABILITY RETIREMENTS AS OF JUNE 30, 2000

				Years D	isabled			
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>	ALL
<50	2	0	0	0	0	0	0	2
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	1	0	0	0	0	0	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	<b>3</b>	0	0	0	0	0	0	3

# **AVERAGE ANNUAL BENEFIT**

				Years D	isabled			
Age	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u> 15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	15,454	0	0	0	0	0	0	15,454
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	348	0	0	0	0	0	0	348
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	10,419	0	0	0	0	0	0	10,419

TOTAL ANNUAL BENEFIT (IN DOLLARS) BY YEARS DISABLED

Age	<1	1-4	5-9	10-14	15-19	20-24	<u>25+</u>	<u>ALL</u>
All	<u> </u>	o	0	0	0	0	0	31,257

# **Reconciliation Of Members**

			Termin	ated
			Deferred	Other
		Actives	Retirement	Non-Vested
A.	ON JUNE 30, 1999	2,280	0	0
B.	ADDITIONS	502	0	0
C.	DELETIONS			
	1. Service Retirement	(9)	0	0
	2. Disability	(3)	0	0
	3. Death	0	0	0
	4. Terminated - Deferred	0	0	0
	5. Terminated - Refund	0	0	0
	6. Terminated - Other Non-Vested	0	0	0
	7. Returned as Active	0	0	. 0
	8. Transferred to Other Fund	0	0	0
D.	DATA ADJUSTMENTS	11	0	0
		1 207		
	Vested	1,387		
	Non-Vested	1,394		
E.	TOTAL ON JUNE 30, 2000	2,781	0	0
			Recipients	
		Retirement		
		Annuitants	Disabled	Survivors
A.	ON JUNE 30, 1999	0	0	0
B.	ADDITIONS	9	3	0
C.	DELETIONS			
C.	1. Service Retirement	0	0	0
	2. Death	0	0	Ö
	3. Annuity Expired	0	0	0
	4. Returned as Active	0	0	0
D.	DATA ADJUSTMENTS	0	0	0
E.	TOTAL ON JUNE 30, 2000	9	3	0

# Actuarial Balance Sheet

(dollars in thousands)

# JULY 1, 2000

A.	CURRENT ASSETS (TABLE 1, E6)			\$11,116		
B.	EXPECTED FUTURE ASSETS  1. Present Value of Expected Future Statutory Supplemental Contributions (S. Present Value of Future Normal Costs	See Table 11)	_	\$2,702 96,362		
	3. Total Expected Future Assets		_	\$99,064		
C.	TOTAL CURRENT AND EXPECTED FUTU	JRE ASSETS	===	\$110,180		
D.	CURRENT BENEFIT OBLIGATIONS  1. Benefit Recipients	Non-Vested	Vested	Total		
	a. Retirement Annuities		\$45	\$45		
	b. Disability Benefits		428	428		
	c. Surviving Spouse		0	0		
	and Child Benefits					
	2. Deferred Retirements with Future Augmen	tation	0	0		
	3. Former Members without Vested Rights		0	0		
	4. Active Members					
	a. Retirement Annuities	4,855	0	4,855		
	b. Disability Benefits	2,378	0	2,378		
	c. Survivor's Benefits	251	0	251		
	d. Deferred Retirements	1,657	0	1,657		
	e. Refund Liability Due to Death or Withdrawal	0	723	723		
	5. Total Current Benefit Obligations	\$9,141	\$1,196	\$10,337		
E.	EXPECTED FUTURE BENEFIT OBLIGATI	ONS	_	\$96,220		
F.	TOTAL CURRENT AND EXPECTED FUTU	JRE BENEFIT OBLIGA	TIONS _	\$106,557		
G.	CURRENT UNFUNDED ACTUARIAL LIAI	BILITY (D5-A)		(\$779)		
٥.	S. COMENT ON ONE DE NOTO MAN DE DE LE COME DE LA COMENTA D					
H.	H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)					

# Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

# JULY 1, 2000

		Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability (3)=(1)-(2)
A.	DETERMINATION OF ACTUARIAL	(1)	(2)	(3) -(1)-(2)
	ACCRUED LIABILITY (AAL)  1. Active Members			
	a. Retirement Annuities	\$72,416	\$64,994	\$7,422
		14,535	13,772	763
	<ul><li>b. Disability Benefits</li><li>c. Survivor's Benefit</li></ul>	2,980	2,706	274
		13,438	12,167	1,271
	d. Deferred Retirements	2,715	2,723	(8)
	e. Refunds Due to Death or Withdrawal		\$96,362	\$9,722
	f. Total	\$106,084	390,302	59,122
	2. Deferred Retirements With Future Augmentation	0		0
	3. Former Members Without Vested Rights	0		0
	4. Annuitants in MPRIF	45		45
	5. Recipients Not in MPRIF	428		428
	6. Total	\$106,557	\$96,362	\$10,195
n	DETERMINATION OF UNFUNDED ACTUA	DIAL ACCRITED I	ΙΑΒΙΙ ΙΤΥ (ΤΙΔΔΙ )	
B.		RIAL ACCRUED L	IABILIT (UAAL)	\$10,195
	1. AAL (A6)			11,116
	2. Current Assets (Table 1, E6)		-	(\$921)
	3. UAAL (B1-B2)		Ξ	(3921)
C.	DETERMINATION OF SUPPLEMENTAL CO 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2030	ONTRIBUTION RAT	ΓE	\$1,688,681
	2. Supplemental Contribution Rate (B3/C1)			-0.05%

# Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

# YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	\$0
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	<ol> <li>Normal Cost and Expenses</li> <li>Contribution</li> <li>Interest on A, B1 and B2</li> </ol>	\$10,357 (10,869) (22)
	4. Total (B1+B2+B3)	(\$534)
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	(\$534)
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	<ol> <li>Salary Increases</li> <li>Investment Return</li> <li>MPRIF Mortality</li> <li>Mortality of Other Benefit Recipients</li> <li>Other Items</li> </ol>	(\$926) 258 (2) 0 463
	6. Total	(\$207)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	(\$741)
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	(180)
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	(\$921)

# **Determination Of Contribution Sufficiency**

(dollars in thousands)

JULY 1, 2000

		Percent of Payroll	Dollar Amount
A.	STATUTORY CONTRIBUTIONS - CHAPTER 353		
	1. Employee Contributions	5.83%	\$4,712
	2. Employer Contributions	8.75%	7,072
	3. Total	14.58%	\$11,784
			-
B.	REQUIRED CONTRIBUTIONS - CHAPTER 356		
	1. Normal Cost	0.6207	## <b>##</b>
	a. Retirement Benefits	9.63%	\$7,779
	b. Disability Benefits	2.11% 0.37%	1,705 297
	c. Survivors	1.73%	1,399
	d. Deferred Retirement Benefits	0.42%	340
	e. Refunds Due to Death or Withdrawal	0.4270	340
	f. Total	14.26%	\$11,520
	<ol> <li>Supplemental Contribution Amortization by July 1, 2030 of UAAL</li> </ol>	-0.05%	(40)
	3. Allowance for Expenses	0.16%	129
	4. Total	14.37%	\$11,609
C.	CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	0.21%	\$175

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is \$80,818.

# Summary of Actuarial Assumptions and Methods

Interest:

Pre-Retirement: 8.5% per annum

Post-Retirement: 8.5% per annum

Benefit Increases
After Retirement:

Payment of earnings on retired reserves in excess of 6%

accounted for by 6% post-retirement assumptions.

Salary Increases:

Reported salary at valuation date increased according to the rate table below to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for new Members.

Mortality:

**Pre-Retirement:** 

Male - 1983 Group Annuity Mortality Table for males

setback one year.

Female - 1983 Group Annuity Mortality Table for females.

**Post-Retirement:** 

Male - 1983 Group Annuity Mortality Table for males set

forward two years.

Female - 1983 Group Annuity Mortality Table for females

set forward two years.

**Post-Disability**:

Male - Combined Annuity Mortality Table

Female - Combined Annuity Mortality Table

Retirement Age:

Age-related table as follows:

Ages:	50-53	2%
Ū	54	5
	55	25
	56-59	10
	60-61	20
	62-64	40
	65-69	50
	70+	100

Separation:

Graded rates based on actual experience developed by the

June 30, 1997 experience analysis. Rates are shown in rate table.

Disability:

Rates as shown in rate table.

Administrative and Investment Expenses:

Prior year administration expenses expressed as percentage of prior year payroll.

Return of Contributions:

All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.

Family Composition:

85% of Members are assumed to be married. Female is three years younger than male.

Social Security:

Based on the present law and 6.0% retroactive salary scale. Only earnings history while in state service is used. Future Social Security benefits replace the same proportion of salary as at present.

Special Consideration:

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

Males -

25% elect 50% J&S option 25% elect 100% J&S option

Females -

5% elect 50% J&S option 5% 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:

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 6% 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.

# Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

-	ת	eath	With	drawal	Die	ability	Dati	rement_	Salary
Age	Male	Female	Male	Female	Male	Female	Male	Female	Increases
Age	Male	remate	Maic	remaie	Maic	remaie	Maic	remate	<u>Increases</u>
20	4	2	2,400	1,600	4	4	0	0	7.75%
21	4	2	2,200	1,560	4	4	0	Ō	7.1454
22	4	2	2,000	1,520	5	5	0	0	7.1094
23	4	2	1,810	1,480	5	5	0	0	7.0725
24	4	2	1,630	1,450	6	6	0	0	7.0363
25	4	2	1,470	1,420	6	6	0	0	7
	5	3 3	1,470	1,420	6	6	0	0	7
26 27	5 5	3	1,330	1,400	7	7	0	0	7
28	5	3	1,210	1,380	7	7	0	0	7
28 29	5	3	-	•	8	8	0	0	7
29	3	3	1,000	1,360	0	0	U	U	,
30	6	3	910	1,350	8	8	0	0	7
31	6	4	830	1,340	9	9	0	0	7
32	6	4	760	1,330	9	9	0	0	7
33	7	4	700	1,320	10	10	0	0	7
34	7	4	650	1,310	10	10	0	0	7
35	8	5	600	1,290	11	11	0	0	7
33 36	9	5	560	1,290	12	12	0	0	6.9019
36 37	9	5	520	1,200	13	13	0	0	6.8074
38	10	6	490	1,220	15	15	0	0	6.7125
36 39	10	6	460		16	16	0	0	6.6054
39	10	0	400	1,110	10	10	U	U	0.0034
40	11	7	440	1,040	18	18	0	0	6.5
41	12	7	420	960	20	20	0	0	6.354
42	14	8	400	870	22	22	0	0	6.2087
43	15	8	380	780	24	24	0	0	6.0622
44	17	9	360	700	26	26	0	0	5.9048
45	19	10	340	640	29	29	0	0	5.75
46	22	11	320	590	32	32	Ö	Ŏ	5.6940
47	25	12	300	560	36	36	Ö	Ŏ	5.6375
48	28	14	280	530	41	41	0	ŏ	5.5822
49	31	15	260	500	46	46	0	ŏ	5.5405
• • •	J 1		200	200	,		•	-	

# Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal_		Disability		Retirement		Salary
<u>Age</u>	Male	<u>Female</u>	Male	<u>Female</u>	Male	<u>Female</u>	Male	<u>Female</u>	<u>Increases</u>
50	35	16	240	470	50	50	200	200	5.5%
51	39	18	220	440	57	57	200	200	5.4384
52	43	19	200	410	64	64	200	200	5.3776
53	48	21	180	390	72	72	200	200	5.3167
54	52	23	160	360	80	80	500	500	5.2826
55	57	25	140	330	88	88	2,500	2,500	5.25
56	61	28	120	290	98	98	1,000	1,000	5.25
57	66	31	100	230	108	108	1,000	1,000	5.25
58	71	34	70	170	118	118	1,000	1,000	5.25
59	77	38.	40	90	129	129	1,000	1,000	5.25
		,					,	,	
60	84	42	0	0	141	141	2,000	2,000	5.25
61	92	47	0	0	154	154	2,000	2,000	5.25
62	101	52	.0	0	167	167	4,000	4,000	5.25
63	111	58	0	0	0	0	4,000	4,000	5.25
64	124	64	0	0	0	0	4,000	4,000	5.25
65	129	71	0	0	0	0	5,000	5,000	5.25
66	156	78	0	0	0	0	5,000	5,000	5.25
67	176	87	0	0	0	0	5,000	5,000	5.25
68	198	97	0	0	0	0	5,000	5,000	5.25
69	222	109	0	0	0	0	5,000	5,000	5.25
70	248	124	0	0	0	0	10,000	10,000	5.25

# Summary of Plan Provisions

# **GENERAL**

Effective Date:

July 1, 1999

Eligibility:

Local government employees in covered correctional service for a county-administered jail or correctional facility or in a regional correctional facility administered by multiple counties, spends at

least 95% of working time in direct contact with persons

confined in the jail or facility, and is not a member of the Public

Employees Police and Fire Fund.

Contributions:

Member:

5.83% of salary.

Employer:

8.75% of salary.

Allowable Service:

Local Government Correctional Service during which Member contributions were made. May also include certain leaves of absence, military service and periods while temporary Worker's

Compensation is paid.

Salary:

Includes wages, allowances and fees. Excludes lump-sum payments at separation and reduced salary while receiving

Worker's Compensation benefits.

Average Salary:

Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

#### RETIREMENT

#### Normal Retirement Benefit:

Eligibility:

Age 55 and three years of Allowable Service. Proportionate Re-

tirement Annuity is available at age 65 and one year of

Allowable Service.

Amount:

1.9% of Average Salary for each year of Allowable Service, pro

rata for completed months.

# Early Retirement Benefit:

Eligibility:

Age 50 and three years of Allowable Service.

Amount:

Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date reduced to the actuarial equivalent of the benefit that would be payable if the Member deferred the benefit until age 55.

Form of Payment:

Life annuity. Actuarially equivalent options are:

> 25%, 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction.

> Level Social Security option to age 62.

Benefit Increases:

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will

receive a partial increase.

#### DISABILITY

#### Occupational Disability:

Eligibility:

Member who cannot perform his duties as a direct result of a

disability related to an act of duty.

Amount:

47.5% of Average Salary plus 1.9% of Average Salary for each year in excess of 25 years of Allowable Service (pro rata

for completed months).

Payment begins at disability and stops at age 65 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.

# Non-Occupational Disability:

Eligibility:

At least one year of Allowable Service and disability not

related to covered employment.

Amount:

Normal Retirement Benefit based on Allowable Service

(minimum of 10 years) and Average Salary at disability.

Payment begins at disability and ends at age 65 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current

salary of position held at time of disability.

Form of Payment:

Same as for retirement.

Benefit Increases:

Adjusted by PERA to provide same increase as MPRIF.

# Retirement Benefits:

Eligibility:

Age 65 with continued disability.

Amount:

Any optional annuity continues. Otherwise, the larger of the disability benefit paid before age 65 or the normal retirement

benefit available at age 65, or an actuarially equivalent

optional annuity.

Form of Payment:

Same as for retirement.

Benefit Increases:

Same as for retirement.

### **DEATH**

#### Surviving Spouse Benefit:

Eligibility: Member at any age or former Member age 50 or older who

dies before retirement or disability benefits commence with three years of Allowable Service. If an active member dies, benefits may commence immediately, regardless of age.

Amount: Surviving spouse receives the 100% joint and survivor

benefit using the Normal Retirement formula above. If commencement is prior to age 50, the appropriate early retirement formula described above applies except that one-half the

monthly reduction factor is used from age 50 to the commencement age. In lieu of this benefit, the surviving spouse may elect a refund of contributions with interest or an

actuarially equivalent term certain annuity (lump sum

payable to estate at death).

Benefit Increases: Adjusted by PERA to provide same increase as MPRIF.

Surviving Dependent Children's Benefit:

Eligibility: If no surviving spouse, all dependent children (biological or

adopted) below age 20 who are dependent for more than half

of their support on deceased Member.

Amount: Actuarially equivalent to surviving spouse 100% joint and

survivor annuity payable to the later of age 20 or five years. The amount is to be proportionally divided among surviving

children.

#### Refund of Contributions With Interest:

Eligibility:

Active employee dies and survivor benefits are not payable or

a former employee dies before annuity begins. If accumulated contributions with interest exceed total payments to the surviving spouse and children, then the

remainder is paid out.

Amount:

The Member's contributions with 6% interest.

# **TERMINATION**

### Refund of Contributions:

*Eligibility*:

Termination of local government service.

Amount:

Member's contributions with 6% interest compounded annually. A deferred annuity may be elected in lieu of a refund if three or more years of Allowable Service.

#### Deferred Annuity:

Eligibility:

Three years of Allowable Service.

Amount:

Benefit computed under law in effect at termination and increased by 3% compounded annually until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins.

# SIGNIFICANT CHANGES

No significant changes were recognized for this valuation.

# **SCHEDULE OF FUNDING PROGRESS**

(dollars in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (B)	Unfunded AAL (UAAL) (B-A)	Funded Ratio (A)/(B)	Actual Covered Payroll (Previous FY) (C)	UAAL as % of Covered Payroll (B-A)/(C)
07/01/99	0	0	0	N/A	0	N/A
07/01/00	11.116	10.195	(921)	109.03%	70.690	-1.30%

# SCHEDULE OF EMPLOYER CONTRIBUTIONS

(dollars in thousands)

Year Ended June 30	Actuarially Required Contribution Rate (A)	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contribution [(A)x(B)]-(C)	Actual Employer Contribution <sup>(1)</sup>	Percentage Contributed
1999 2000 2001	0.00% 15.03% 14.36 <sup>(2),(3)</sup>	0 70,690	0 4,382	0 6,243	0 6,487	N/A 103.91%

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<sup>(1)</sup> Includes contributions from other sources (if applicable).

<sup>(3)</sup> Actuarially Required Contribution Rate calculated according to parameters of GASB 25 with no assumption for growth of covered population.

<sup>(3)</sup> Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 14.38%.