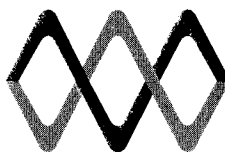


Public Employees Retirement Fund
ACTUARIAL VALUATION REPORT

JULY 1, 1997





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Actuaries & Consultants

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November 19, 1997

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, 1997.

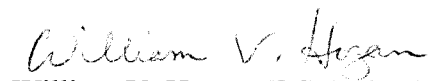
The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Public Employees Retirement Fund.

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.


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


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Public Employees Retirement Fund

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Public Employees Retirement Fund

Report Highlights

(dollars in thousands)

	07/01/96 Valuation	07/01/97 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 353 % of Payroll	8.88%	9.46%
2. Required Contributions - Chapter 356 % of Payroll	9.75%	9.80%
3. Sufficiency (Deficiency): (A.1. - A.2.)	-0.87%	-0.34%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$5,786,398	\$6,658,410
b. Current Benefit Obligations (Table 8)	\$6,608,646	\$7,330,038
c. Funding Ratio: (a/b)	87.56%	90.84%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$5,786,398	\$6,658,410
b. Actuarial Accrued Liability (Table 9)	\$7,270,073	\$8,049,666
c. Funding Ratio: (a/b)	79.59%	82.72%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$8,424,259	\$9,959,797
b. Current and Expected Future Benefit Obligations	\$8,902,933	\$9,805,141
c. Funding Ratio: (a/b)	94.62%	101.58%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	129,431	130,865
b. Projected Annual Earnings	\$3,073,106	\$3,214,578
c. Average Annual Earnings (Actual \$)	\$23,743	\$24,564
d. Average Age	43.4	43.8
e. Average Service	8.2	8.5
2. Others		
a. Service Retirements (Table 4)	32,906	34,168
b. Survivors (Table 5)	5,423	5,531
c. Disability Retirements (Table 6)	1,051	1,115
d. Deferred Retirements (Table 7)	8,605	10,817
e. Terminated Other Non-vested (Table 7)	11,448	15,162
f. Total	59,433	66,793

Public Employees Retirement Fund

Commentary

Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- ° The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 90.84%. The corresponding ratio for the prior year was 87.56%.
- ° 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 1997 the ratio is 82.72%, which is an increase from the 1996 value of 79.59%.
- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 101.58% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines E1 to E6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

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

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

Actuarial Balance Sheet (Table 8)

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

The Current Benefit Obligation used to measure current funding levels is calculated as follows:

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

GASB Disclosure

Disclosure of the Current Benefit Obligation amounts used to be required by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 has been superseded by Statement No. 25. Tables 14 and 15 of this report have been added to fulfill the new requirements of Statement No. 25. For this transition year only, disclosure in accordance with Statement No. 5 is shown below as of JULY 1, 1997:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$3,795,580,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$999,188,000
Employer-financed vested	2,249,897,000
Employer-financed nonvested	<u>285,373,000</u>
Total Pension Benefit Obligation	\$7,330,038,000
Net Assets Available for Benefits at Cost	\$6,552,205,000
Total Benefit Obligation less Assets	\$777,833,000
Funded Ratio	89.39%

Actuarial Cost Method (Table 9)

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

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

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

The payments will increase 6.00% 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 will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

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

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a contribution deficiency since the Statutory Contribution Rate is 9.46% compared to the Required Contribution Rate of 9.80%. However, increases in statutory contribution rates for Members and Employers are effective January 1, 1998; from that point forward, the plan appears to have a modest sufficiency.

Changes in Actuarial Assumptions

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

Changes in Plan Provisions

This valuation reflects the new plan provisions which became effective July 1, 1997. Substantive provisions of that legislation included:

1. Increase in contribution rates for both Member and Employer.
2. Increase in the benefit rate factor by 0.2%.
3. Addition of 25% and 75% Joint and Survivor bounceback options.
4. Post-retirement benefit increases now paid in excess of 6% rather than 5% of earnings with corresponding benefit increases for Members who do not receive the new benefit rates in (2.)
5. Coordinated Members hired after June 30, 1989 reach Normal Retirement Age no later than age 66.

TABLE 1

Public Employees Retirement Fund

Statement of Plan Net Assets*(dollars in thousands)*

JULY 1, 1997

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	\$29,839	\$29,839
2. Fixed Income	795,944	782,467
3. Equity	2,482,375	2,176,017
4. Real Estate	116,978	118,199
5. Equity in MPRIF	3,439,503	3,439,503
6. Other	518	518
Subtotal	<u>\$6,865,157</u>	<u>\$6,546,543</u>
B. ASSETS RECEIVABLE	8,111	8,111
C. LIABILITIES	(2,449)	(2,449)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	3,439,503	3,439,503
2. Member Reserves	1,074,489	1,074,489
3. Other Non-MPRIF Reserves	2,356,827	2,038,213
4. Total Assets Available for Benefits	<u>\$6,870,819</u>	<u>\$6,552,205</u>
<hr/>		
E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$6,552,205
2. Market Value (D5)	\$6,870,819	
3. Cost Value (D5)	<u>6,552,205</u>	
4. Market Over Cost: (E2-E3)	\$318,614	
5. One-third of Market Over Cost: (E4)/3		106,205
6. Actuarial Value of Assets (E1+E5) (Same as "Current Assets")		<u>\$6,658,410</u>

TABLE 2

Public Employees Retirement Fund

Statement of Change In Plan Net Assets
(dollars in thousands)

YEAR ENDING JUNE 30, 1997

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$5,954,696	\$5,702,247
B. ADDITIONS		
1. Member Contributions	\$128,234	\$128,234
2. Employer Contributions	136,686	136,686
3. Contributions From Other Sources	0	0
4. MPRIF Income	402,949	402,949
5. Net Investment Income		
a. Interest and Dividends	305,403	305,403
b. Net Realized Gain (Loss)	245,321	245,321
c. Net Change in Unrealized Gain (Loss)	66,165	0
d. Investment Expenses	(4,561)	(4,561)
Net Subtotal	612,328	546,163
6. Other	1,133	1,133
7. Total Additions	<u>\$1,281,330</u>	<u>\$1,215,165</u>
C. OPERATING EXPENSES		
1. Service Retirements paid from MPRIF	\$318,828	\$318,828
2. Service Retirements paid from plan assets	1,407	1,407
2. Disability Benefits	7,897	7,897
3. Survivor Benefits	14,022	14,022
4. Refunds	16,268	16,268
6. Administrative Expenses	5,666	5,666
7. Other	<u>1,119</u>	<u>1,119</u>
8. Total Disbursements	<u>\$365,207</u>	<u>\$365,207</u>
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	<u><u>\$6,870,819</u></u>	<u><u>\$6,552,205</u></u>

TABLE 3

PUBLIC EMPLOYEES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1997

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	1,814	2,039	37	0	0	0	0	0	3,890
25-29	2,217	5,757	1,173	29	0	0	0	0	9,176
30-34	1,687	5,370	3,836	1,205	40	0	0	0	12,138
35-39	2,144	6,681	5,202	3,131	1,660	50	0	0	18,868
40-44	1,787	6,770	6,308	3,695	3,107	1,522	39	1	23,229
45-49	2,879	6,723	6,122	4,066	3,071	2,431	848	27	26,167
50-54	622	2,685	3,665	3,340	2,684	1,948	1,375	330	16,649
55-59	350	1,627	2,116	2,000	2,092	1,637	1,105	607	11,534
60-64	193	917	1,112	1,094	1,092	1,031	768	294	6,501
65+	156	627	641	462	309	251	179	88	2,713
ALL	13,849	39,196	30,212	19,022	14,055	8,870	4,314	1,347	130,865

AVERAGE ANNUAL EARNINGS

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	9,641	12,224	17,436	0	0	0	0	0	11,069
25-29	12,460	18,697	24,122	27,650	0	0	0	0	17,912
30-34	12,162	19,727	27,737	28,843	25,685	0	0	0	22,132
35-39	11,283	17,530	27,112	32,658	30,877	29,970	0	0	23,180
40-44	11,242	16,379	23,749	31,592	34,899	34,553	37,304	13,964	24,108
45-49	9,505	15,273	23,108	29,108	35,185	39,443	39,382	41,872	24,012
50-54	12,085	17,495	22,636	26,210	30,041	36,341	42,759	42,035	26,973
55-59	11,078	15,375	21,158	24,961	26,721	29,712	35,893	41,092	25,380
60-64	8,151	12,924	19,576	24,003	24,939	26,384	29,996	37,957	23,086
65+	5,859	8,839	13,803	17,341	20,378	21,894	26,776	29,867	15,676
ALL	10,915	16,802	24,030	28,632	31,222	34,059	37,352	39,901	23,200

PRIOR FISCAL YEAR ENDINGS (IN MILLIONS) BY YEARS OF SERVICE

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	151	659	726	545	439	302	161	54	3,036

TABLE 4

PUBLIC EMPLOYEES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	1	0	0	0	0	0	1
50-54	10	6	0	0	0	0	0	16
55-59	463	943	10	0	0	0	0	1,416
60-64	867	2,671	1,082	10	0	0	0	4,630
65-69	598	4,127	2,838	820	0	0	0	8,383
70-74	90	983	4,087	2,805	42	1	0	8,008
75-79	30	213	826	3,827	920	14	1	5,831
80-84	3	37	96	820	2,459	232	3	3,650
85+	1	11	20	102	323	1,315	461	2,233
ALL	2,062	8,992	8,959	8,384	3,744	1,562	465	34,168

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	3,810	0	0	0	0	0	3,810
50-54	15,962	13,602	0	0	0	0	0	15,077
55-59	9,349	8,984	14,405	0	0	0	0	9,142
60-64	8,134	10,538	9,538	18,509	0	0	0	9,872
65-69	6,903	7,705	8,513	17,106	0	0	0	8,841
70-74	3,948	7,328	6,612	14,512	13,652	13,611	0	9,475
75-79	5,570	5,997	5,054	10,018	11,284	11,142	15,721	9,349
80-84	9,105	2,867	4,116	7,499	9,233	13,672	10,115	8,927
85+	5,059	4,207	2,753	3,163	7,971	8,184	7,128	7,636
ALL	7,867	8,578	7,397	11,895	9,678	9,029	7,165	9,162

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	16,222	77,133	66,270	99,728	36,234	14,103	3,332	313,047

TABLE 5

PUBLIC EMPLOYEES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS SINCE DEATH</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	12	95	45	20	9	0	1	182
50-54	5	58	30	19	7	5	0	124
55-59	18	92	78	35	13	4	2	242
60-64	11	125	143	99	24	16	7	425
65-69	5	101	212	292	55	32	23	720
70-74	1	44	192	478	160	51	43	969
75-79	2	17	77	372	359	119	83	1,029
80-84	1	14	45	123	303	247	138	871
85+	6	45	92	95	131	289	311	969
ALL	61	591	914	1,533	1,061	763	608	5,531

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS SINCE DEATH</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	11,254	6,024	7,165	8,023	10,618	0	4,361	7,089
50-54	6,693	8,223	11,336	9,710	8,230	9,617	0	9,199
55-59	5,817	8,356	8,848	13,475	9,813	9,860	4,647	9,139
60-64	8,278	7,224	8,695	13,384	11,103	10,212	5,184	9,479
65-69	4,570	6,299	7,000	13,892	9,123	9,761	5,222	9,908
70-74	14,448	5,468	6,360	12,260	9,579	9,535	4,341	9,848
75-79	2,372	3,680	6,210	9,236	8,801	8,374	3,798	8,215
80-84	5,967	6,086	4,500	6,911	8,161	7,628	4,071	6,961
85+	5,032	5,224	5,328	6,596	6,844	7,834	5,632	6,495
ALL	7,254	6,735	7,081	11,070	8,587	8,118	4,910	8,345

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DEATH

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	443	3,980	6,472	16,970	9,111	6,194	2,985	46,156

TABLE 6

PUBLIC EMPLOYEES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	31	146	60	5	0	0	0	242
50-54	23	92	31	8	3	0	0	157
55-59	32	157	57	15	4	1	0	266
60-64	40	176	131	43	9	4	0	403
65-69	3	17	18	7	2	0	0	47
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	129	588	297	78	18	5	0	1,115

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	6,642	4,839	4,654	2,614	0	0	0	4,978
50-54	8,573	7,080	6,597	5,487	6,958	0	0	7,120
55-59	8,781	7,851	7,902	8,513	11,817	4,023	0	8,056
60-64	6,975	7,328	10,821	9,283	11,872	8,898	0	8,754
65-69	6,496	13,597	10,070	9,224	12,431	0	0	11,092
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	7,616	6,992	8,529	8,313	11,103	7,923	0	7,637

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	983	4,111	2,533	648	200	40	0	8,515

TABLE 7

Public Employees Retirement Fund

Reconciliation Of Members

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1996	129,431	8,605	11,448
B. ADDITIONS	15,829	3,327	6,688
C. DELETIONS			
1. Service Retirement	(1,740)	(363)	(85)
2. Disability	(179)	(17)	(4)
3. Death	(169)	(10)	(22)
4. Terminated - Deferred	(3,315)	0	0
5. Terminated - Refund	(3,431)	0	(1,766)
6. Terminated - Other Non-Vested	(5,430)	0	0
7. Returned as Active	0	(299)	(784)
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	(131)	(426)	(313)
Vested	94,052		
Non-Vested	36,813		
E. TOTAL ON JUNE 30, 1997	130,865	10,817	15,162

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1996	32,906	1,051	5,423
B. ADDITIONS	2,302	220	395
C. DELETIONS			
1. Service Retirement	0	(76)	0
2. Death	(1,031)	(70)	(285)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	(9)	(10)	(2)
E. TOTAL ON JUNE 30, 1997	34,168	1,115	5,531

Public Employees Retirement Fund

TABLE 8

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 1997

A. CURRENT ASSETS (TABLE 1, E6)				\$6,658,410
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)				\$1,545,912
2. Present Value of Future Normal Costs				1,755,475
3. Total Expected Future Assets				<u>\$3,301,387</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				<u>\$9,959,797</u>
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>		<u>Total</u>
1. Benefit Recipients				
a. Retirement Annuities		\$3,151,088		\$3,151,088
b. Disability Benefits		86,630		86,630
c. Surviving Spouse and Child Benefits		415,443		415,443
2. Deferred Retirements with Future Augmentation		136,129		136,129
3. Former Members without Vested Rights		6,290		6,290
4. Active Members				
a. Retirement Annuities	13,023	2,541,451		2,554,474
b. Disability Benefits	207,326	0		207,326
c. Survivor's Benefits	55,378	0		55,378
d. Deferred Retirements	9,646	679,440		689,086
e. Refund Liability Due to Death or Withdrawal	0	28,194		28,194
5. Total Current Benefit Obligations	<u>\$285,373</u>	<u>\$7,044,665</u>		<u>\$7,330,038</u>
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$2,475,103</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$9,805,141</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				\$671,628
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				(\$154,656)

TABLE 9

Public Employees Retirement Fund

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

JULY 1, 1997

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$4,359,130	\$963,887	\$3,395,243
b. Disability Benefits	374,713	144,794	229,919
c. Survivor's Benefit	93,546	33,702	59,844
d. Deferred Retirements	1,116,861	562,198	554,663
e. Refunds Due to Death or Withdrawal	65,311	50,894	14,417
f. Total	<u>\$6,009,561</u>	<u>\$1,755,475</u>	<u>\$4,254,086</u>
2. Deferred Retirements With Future Augmentation	136,129		136,129
3. Former Members Without Vested Rights	6,290		6,290
4. Annuitants in MPRIF	3,439,503		3,439,503
5. Recipients Not in MPRIF	<u>213,658</u>		<u>213,658</u>
6. Total	<u>\$9,805,141</u>	<u>\$1,755,475</u>	<u>\$8,049,666</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$8,049,666
2. Current Assets (Table 1, E6)			<u>6,658,410</u>
3. UAAL (B1-B2)			<u>\$1,391,256</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			\$55,409,044
2. Supplemental Contribution Rate (B3/C1)			2.51%

Public Employees Retirement Fund

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

YEAR ENDING JUNE 30, 1997

A. UAAL AT BEGINNING OF YEAR	\$1,483,675
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$299,915
2. Contribution	(264,920)
3. Interest on A, B1 and B2	127,600
	<hr/>
4. Total (B1+B2+B3)	\$162,595
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$1,646,270
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$51,416)
2. Investment Return	(343,935)
3. MPRIF Mortality	(7,117)
4. Mortality of Other Benefit Recipients	(7,847)
5. Other Items	18,616
	<hr/>
6. Total	(\$391,699)
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$1,254,571
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	136,685
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
	<hr/>
H. UAAL AT END OF YEAR (E+F+G)	<u>\$1,391,256</u>

Public Employees Retirement Fund

Determination Of Contribution Sufficiency*(dollars in thousands)*

JULY 1, 1997

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	4.55% *	\$146,127 *
2. Employer Contributions	4.92% *	158,067 *
3. Total	<u>9.46% *</u>	<u>\$304,194 *</u>
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	4.03%	\$129,426
b. Disability benefits	0.57%	18,382
c. Survivors	0.13%	4,127
d. Deferred Retirement Benefits	2.17%	69,771
e. Refunds Due to Death or Withdrawal	0.21%	6,753
f. Total	<u>7.11%</u>	<u>\$228,459</u>
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	2.51%	80,686
3. Allowance for Expenses	<u>0.18%</u>	<u>5,786</u>
4. Total	<u>9.80%</u>	<u>\$314,931</u>
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-	-0.34% *	(\$10,737) *

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1997 is \$3,214,578.

* Calculated based on statutory rates in effect for FY 97-98. Results based solely as of January 1, 1998 and later would show a sufficiency of about 0.25% of payroll.

Public Employees Retirement Fund

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 rate table below.
Mortality:	<p>Pre-Retirement: Male - 1983 Group Annuity Mortality Table for males setback five years. Female - 1983 Group Annuity Mortality Table for females setback five years.</p> <p>Post-Retirement: Male - 1983 Group Annuity Mortality Table for males set forward one year. Female - 1983 Group Annuity Mortality Table for females set forward one year.</p> <p>Post-Disability: Male - 1965 RRB rates Female - 1965 RRB rates</p>
Retirement Age:	Age 64 or if over age 64, one year from valuation date. In addition, 50% of employees are assumed to retire under the Rule of 90 when first eligible.
Separation:	Graded rates based on experience as of June 30, 1990. Rates are shown in rate table.
Disability:	Rates as shown in rate table.

TABLE 12
(Continued)

Administrative and Investment Expenses:	Prior year 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 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:	<p>Married Members assumed to elect subsidized joint and survivor form of annuity as follows:</p> <p>Males - 30% elect 50% J&S option 45% elect 100% J&S option</p> <p>Females - 15% elect 50% J&S option 15% elect 100% J&S option</p>
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Cost Value plus one-third Unrealized Gains or Losses.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6% per annum.

TABLE 12
(Continued)

Public Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

<u>Age</u>	<u>Pre-Retirement Death</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>		<u>Salary Increases</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	2,542	2,913	9	9	0	0	7.7%
21	3	1	2,277	2,666	9	9	0	0	7.7
22	3	2	2,050	2,450	9	9	0	0	7.7
23	4	2	1,854	2,259	10	10	0	0	7.7
24	4	2	1,684	2,091	10	10	0	0	7.7
25	4	2	1,536	1,942	10	10	0	0	7.6
26	4	2	1,406	1,808	10	10	0	0	7.5
27	4	2	1,291	1,688	10	10	0	0	7.4
28	4	2	1,189	1,580	11	11	0	0	7.3
29	4	2	1,099	1,482	11	11	0	0	7.2
30	5	3	1,018	1,394	11	11	0	0	7.2
31	5	3	945	1,313	11	11	0	0	7.1
32	5	3	880	1,239	11	11	0	0	7.1
33	5	3	821	1,172	12	12	0	0	7.0
34	6	3	767	1,110	12	12	0	0	7.0
35	6	3	719	1,053	12	12	0	0	6.9
36	7	4	675	1,000	12	12	0	0	6.8
37	7	4	634	952	13	13	0	0	6.7
38	8	4	597	907	13	13	0	0	6.6
39	9	4	563	865	14	14	0	0	6.5
40	9	5	532	826	15	15	0	0	6.4
41	10	5	503	790	16	16	0	0	6.3
42	10	5	476	756	17	17	0	0	6.3
43	11	6	452	724	18	18	0	0	6.3
44	12	6	429	695	20	20	0	0	6.2
45	14	7	408	667	22	22	0	0	6.2
46	15	7	388	641	23	23	0	0	6.1
47	17	8	370	616	25	25	0	0	6.0
48	19	8	352	593	27	27	0	0	5.9
49	22	9	336	571	30	30	0	0	5.8

TABLE 12
(Continued)

Public Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

Age	Pre-Retirement Death		Withdrawal		Disability		Retirement		Salary Increases
	Male	Female	Male	Female	Male	Female	Male	Female	
50	22	10	321	550	33	33	0	0	5.7%
51	25	11	316	531	36	36	0	0	5.7
52	28	12	310	513	40	40	0	0	5.7
53	31	14	270	495	45	45	0	0	5.7
54	35	15	230	487	51	51	0	0	5.7
55	39	16	195	478	58	58	0	0	5.7
56	43	18	150	410	66	66	0	0	5.7
57	48	19	100	362	76	76	0	0	5.7
58	52	21	50	210	88	88	0	0	5.7
59	57	23	20	50	102	102	0	0	5.0
60	61	25	0	0	118	118	0	0	5.0
61	66	28	0	0	136	136	0	0	5.0
62	71	31	0	0	157	157	0	0	5.0
63	77	34	0	0	181	181	0	0	5.0
64	83	38	0	0	208	208	10,000	10,000	5.0
65	91	42	0	0	0	0	0	0	5.0
66	101	47	0	0	0	0	0	0	5.0
67	111	52	0	0	0	0	0	0	5.0
68	124	58	0	0	0	0	0	0	5.0
69	139	64	0	0	0	0	0	0	5.0
70	156	71	0	0	0	0	0	0	5.0

TABLE 14

Public Employees Retirement Fund

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	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%

TABLE 15

Public Employees Retirement Fund
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**	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%

* 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.

** Includes contributions from other sources (if applicable).

TABLE 3A
BASIC

PUBLIC EMPLOYEES RETIREMENT FUND
ACTIVE MEMBERS AS OF JUNE 30, 1997

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	1	19	20	40
50-54	0	0	0	0	0	0	66	252	318
55-59	0	0	0	0	0	1	55	397	453
60-64	0	0	0	0	0	0	45	178	223
65+	0	0	0	0	0	0	16	65	81
ALL	0	0	0	0	0	2	201	912	1,115

AVERAGE ANNUAL EARNINGS

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	15,657	35,734	41,846	38,288
50-54	0	0	0	0	0	0	43,658	42,188	42,493
55-59	0	0	0	0	0	55,623	39,323	39,620	39,619
60-64	0	0	0	0	0	0	31,561	35,063	34,356
65+	0	0	0	0	0	0	22,839	24,736	24,361
ALL	0	0	0	0	0	35,640	37,357	38,428	38,229

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

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	0	0	0	0	0	71	7,509	35,046	42,625

TABLE 4A
BASIC

PUBLIC EMPLOYEES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	1	0	0	0	0	0	1
50-54	7	4	0	0	0	0	0	11
55-59	109	212	8	0	0	0	0	329
60-64	110	674	332	9	0	0	0	1,125
65-69	66	637	746	498	0	0	0	1,947
70-74	6	148	832	1,529	38	1	0	2,554
75-79	4	24	139	1,694	626	12	1	2,500
80-84	1	2	13	301	1,476	202	3	1,998
85+	0	1	5	21	171	952	372	1,522
ALL	303	1,703	2,075	4,052	2,311	1,167	376	11,987

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	3,810	0	0	0	0	0	3,810
50-54	20,142	17,265	0	0	0	0	0	19,096
55-59	25,174	24,991	14,651	0	0	0	0	24,800
60-64	22,515	24,798	22,428	20,349	0	0	0	23,840
65-69	18,282	19,149	18,797	24,919	0	0	0	20,461
70-74	11,517	19,451	14,926	21,594	13,918	13,611	0	19,157
75-79	23,976	20,246	12,498	16,496	14,231	11,559	15,721	15,731
80-84	23,433	10,412	15,973	14,571	12,418	14,497	10,115	12,976
85+	0	9,935	6,433	9,842	11,928	9,435	7,879	9,331
ALL	22,299	22,125	17,340	19,286	12,898	10,337	7,918	16,970

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	6,756	37,678	35,980	78,146	29,807	12,063	2,977	203,419

TABLE 5A
BASIC

PUBLIC EMPLOYEES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS SINCE DEATH</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	2	1	10	9	5	0	1	28
50-54	0	7	16	7	6	4	0	40
55-59	2	14	31	25	10	4	2	88
60-64	0	20	47	57	18	16	7	165
65-69	0	21	79	180	41	31	23	375
70-74	0	6	62	296	123	43	43	573
75-79	0	7	39	201	248	104	82	681
80-84	1	13	37	71	208	200	136	666
85+	6	45	87	85	109	231	296	859
ALL	11	134	408	931	768	633	590	3,475

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS SINCE DEATH</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	14,533	3,955	14,599	14,214	14,281	0	4,361	13,668
50-54	0	21,020	16,517	16,733	9,362	11,711	0	15,789
55-59	14,892	20,245	16,552	16,918	11,897	9,860	4,647	16,102
60-64	0	17,197	16,857	18,872	13,681	10,212	5,184	16,108
65-69	0	14,307	11,842	19,127	10,980	9,790	5,222	14,807
70-74	0	15,659	10,479	16,220	11,253	10,661	4,341	13,218
75-79	0	6,482	7,774	13,143	10,854	8,996	3,820	10,178
80-84	5,967	6,415	5,029	9,325	10,114	8,385	4,099	7,922
85+	5,032	5,224	5,534	7,091	7,443	8,537	5,709	6,778
ALL	8,637	11,468	10,470	14,924	10,331	8,841	4,945	10,430

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DEATH

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	95	1,536	4,271	13,894	7,934	5,596	2,917	36,244

TABLE 6A
BASIC

PUBLIC EMPLOYEES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	1	5	3	0	2	0	0	11
55-59	2	15	8	4	1	0	0	30
60-64	2	16	31	12	7	4	0	72
65-69	0	7	4	2	1	0	0	14
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	5	43	46	18	11	4	0	127

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	34,181	23,923	17,256	0	7,756	0	0	20,098
55-59	18,093	19,232	24,756	18,939	31,295	0	0	20,992
60-64	14,716	18,128	25,840	20,533	13,884	8,898	0	20,829
65-69	0	24,821	18,920	22,822	22,746	0	0	22,701
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	19,960	20,277	24,490	20,433	15,158	8,898	0	21,011

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	99	871	1,126	367	166	35	0	2,668

TABLE 11A
Basic

Public Employees Retirement Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 1997

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	8.49%	\$3,817
2. Employer Contributions	11.08%	4,981
3. Total	19.57%	\$8,798
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	4.33%	\$1,946
b. Disability benefits	0.75%	339
c. Survivors	0.44%	199
d. Deferred Retirement Benefits	3.39%	1,525
e. Refunds Due to Death or Withdrawal	0.01%	3
f. Total	8.92%	\$4,012

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1997 is \$44,959.

Public Employees Retirement Fund

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: 8.23% of total salary paid from July 1, 1997 to December 31, 1997; 8.75%* of total salary thereafter.

Employer: 10.73% of total salary paid from July 1, 1997 to December 31, 1997; 11.43%* of total salary thereafter. 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.

**Contribution rate increases are effective first full pay period after 12/31/97.*

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;
OR
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-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. 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%.

TABLE 13A
BASIC
(Continued)

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%.

TABLE 13A
BASIC
(Continued)

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 marries, 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. 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

1. Increase in both Member and Employer contribution rates to 8.23% and 10.73%, respectively, at July 1, 1997 and again to 8.75% and 11.43%, respectively, at January 1, 1998. Additional Employer rate of 2.68% (which is included in the 11.43%) is repealed when full funding is reached.
2. All benefit rate factors are increased by .2%.
3. Added 25% and 75% Joint & Survivor with bounceback options.
4. Post-retirement benefit increases are paid on excess earnings over 6% instead of 5%. For those who do not receive the new benefit rate factors, a one-time increase in their benefit is made, equal in cost to the change in the post-retirement benefit increase change.

**TABLE 3B
COORDINATED**

**PUBLIC EMPLOYEES RETIREMENT FUND
ACTIVE MEMBERS AS OF JUNE 30, 1997**

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	1,814	2,039	37	0	0	0	0	0	3,890
25-29	2,217	5,757	1,173	29	0	0	0	0	9,176
30-34	1,687	5,370	3,836	1,205	40	0	0	0	12,138
35-39	2,144	6,681	5,202	3,131	1,660	50	0	0	18,868
40-44	1,787	6,770	6,308	3,695	3,107	1,522	39	1	23,229
45-49	2,879	6,723	6,122	4,066	3,071	2,430	829	7	26,127
50-54	622	2,685	3,665	3,340	2,684	1,948	1,309	78	16,331
55-59	350	1,627	2,116	2,000	2,092	1,636	1,050	210	11,081
60-64	193	917	1,112	1,094	1,092	1,031	723	116	6,278
65+	156	627	641	462	309	251	163	23	2,632
ALL	13,849	39,196	30,212	19,022	14,055	8,868	4,113	435	129,750

AVERAGE ANNUAL EARNINGS

<u>Age</u>	<u>Years of Service</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	9,641	12,224	17,436	0	0	0	0	0	11,069
25-29	12,460	18,697	24,122	27,650	0	0	0	0	17,912
30-34	12,162	19,727	27,737	28,843	25,685	0	0	0	22,132
35-39	11,283	17,530	27,112	32,658	30,877	29,970	0	0	23,180
40-44	11,242	16,379	23,749	31,592	34,899	34,553	37,304	13,964	24,108
45-49	9,505	15,273	23,108	29,108	35,185	39,452	39,466	41,948	23,990
50-54	12,085	17,495	22,636	26,210	30,041	36,341	42,713	41,543	26,671
55-59	11,078	15,375	21,158	24,961	26,721	29,697	35,713	43,874	24,798
60-64	8,151	12,924	19,576	24,003	24,939	26,384	29,899	42,398	22,686
65+	5,859	8,839	13,803	17,341	20,378	21,894	27,162	44,365	15,409
ALL	10,915	16,802	24,030	28,632	31,222	34,059	37,352	42,989	23,071

PRIOR FISCAL YEAR ENDINGS (IN MILLIONS) BY YEARS OF SERVICE

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	151	659	726	545	439	302	154	19	2,994

**TABLE 4B
COORDINATED**

PUBLIC EMPLOYEES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	3	2	0	0	0	0	0	5
55-59	354	731	2	0	0	0	0	1,087
60-64	757	1,997	750	1	0	0	0	3,505
65-69	532	3,490	2,092	322	0	0	0	6,436
70-74	84	835	3,255	1,276	4	0	0	5,454
75-79	26	189	687	2,133	294	2	0	3,331
80-84	2	35	83	519	983	30	0	1,652
85+	1	10	15	81	152	363	89	711
ALL	1,759	7,289	6,884	4,332	1,433	395	89	22,181

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	0	0	0	0	0	0	0	0
50-54	6,210	6,278	0	0	0	0	0	6,237
55-59	4,477	4,342	13,424	0	0	0	0	4,403
60-64	6,045	5,726	3,833	1,950	0	0	0	5,389
65-69	5,492	5,617	4,847	5,024	0	0	0	5,327
70-74	3,408	5,180	4,488	6,026	11,134	0	0	4,942
75-79	2,739	4,188	3,549	4,875	5,011	8,642	0	4,560
80-84	1,941	2,436	2,260	3,398	4,452	8,118	0	4,032
85+	5,059	3,635	1,527	1,432	3,521	4,904	3,989	4,009
ALL	5,382	5,414	4,401	4,983	4,487	5,167	3,989	4,943

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	9,466	39,462	30,296	21,586	6,429	2,040	355	109,640

**TABLE 5B
COORDINATED**

PUBLIC EMPLOYEES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS SINCE DEATH</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	10	94	35	11	4	0	0	154
50-54	5	51	14	12	1	1	0	84
55-59	16	78	47	10	3	0	0	154
60-64	11	105	96	42	6	0	0	260
65-69	5	80	133	112	14	1	0	345
70-74	1	38	130	182	37	8	0	396
75-79	2	10	38	171	111	15	1	348
80-84	0	1	8	52	95	47	2	205
85+	0	0	5	10	22	58	15	110
ALL	50	457	506	602	293	130	18	2,056

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS SINCE DEATH</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	10,599	6,047	5,041	2,959	6,041	0	0	5,893
50-54	6,693	6,467	5,416	5,614	1,443	1,243	0	6,061
55-59	4,683	6,223	3,768	4,870	2,869	0	0	5,161
60-64	8,278	5,325	4,700	5,937	3,369	0	0	5,273
65-69	4,570	4,197	4,124	5,480	3,688	8,865	0	4,584
70-74	14,448	3,859	4,397	5,822	4,015	3,485	0	4,972
75-79	2,372	1,720	4,605	4,644	4,215	4,068	2,023	4,374
80-84	0	1,822	2,054	3,615	3,886	4,409	2,173	3,839
85+	0	0	1,756	2,390	3,878	5,035	4,117	4,289
ALL	6,950	5,348	4,350	5,112	4,017	4,602	3,785	4,822

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DEATH

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	347	2,444	2,201	3,077	1,176	598	68	9,914

TABLE 6B
COORDINATED

PUBLIC EMPLOYEES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	31	146	60	5	0	0	0	242
50-54	22	87	28	8	1	0	0	146
55-59	30	142	49	11	3	1	0	236
60-64	38	160	100	31	2	0	0	331
65-69	3	10	14	5	1	0	0	33
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	124	545	251	60	7	1	0	988

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS DISABLED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	6,642	4,839	4,654	2,614	0	0	0	4,978
50-54	7,409	6,113	5,456	5,487	5,362	0	0	6,143
55-59	8,161	6,649	5,151	4,722	5,325	4,023	0	6,412
60-64	6,568	6,248	6,166	4,929	4,831	0	0	6,128
65-69	6,496	5,741	7,542	3,785	2,117	0	0	6,168
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	7,119	5,944	5,604	4,677	4,731	4,023	0	5,918

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	882	3,239	1,406	280	33	4	0	5,846

Public Employees Retirement Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 1997

	<u>Percent of Payroll</u>	<u>Dollar Amount</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	4.49%	\$142,310
2. Employer Contributions	4.83%	153,086
3. Total	<u>9.32%</u>	<u>\$295,396</u>
 B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	4.02%	\$127,481
b. Disability benefits	0.57%	18,043
c. Survivors	0.12%	3,928
d. Deferred Retirement Benefits	2.15%	68,246
e. Refunds Due to Death or Withdrawal	0.21%	6,751
f. Total	<u>7.07%</u>	<u>\$224,449</u>

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1997 is \$3,169,478.

Public Employees Retirement Fund

Summary of Plan Provisions

GENERAL

<i>Eligibility</i>	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.
<i>Contributions</i>	
<i>Member:</i>	4.23% of total salary paid from July 1, 1997 to December 31, 1997; 4.75%* of total salary thereafter.
<i>Employer:</i>	4.48% of total salary paid from July 1, 1997 to December 31, 1997; 5.18%* of total salary thereafter. Additional 0.43% is repealed at full funding.
<i>Allowable Service:</i>	Service during which Member contributions were deducted. May also include certain leaves of absence and military service.
<i>Salary:</i>	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.
<i>Average Salary:</i>	Average of the five highest successive years of salary. Average salary is based on all Allowable Service if less than five years.

**Contribution rate increases are effective first full pay period after 12/31/97.*

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

<i>Eligibility:</i>	Normal retirement age.
<i>Amount:</i>	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.
<i>Benefit Increases:</i>	Same as for retirement.

DEATH

Surviving Spouse Optional Annuity

<i>Eligibility:</i>	Member or former Member who dies before retirement or disability benefits commence.
<i>Amount:</i>	<p>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.</p> <p>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%.</p>
<i>Benefit Increases:</i>	Adjusted by PERA to provide same increase as MPRIF.

Refund of Contributions

<i>Eligibility:</i>	Member dies before receiving any retirement benefits and survivor benefits are not payable.
<i>Amount:</i>	The excess of the Member's contributions with 6% interest over any disability or survivor benefits paid.

TERMINATION

Refund of Contributions

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

Deferred Benefit

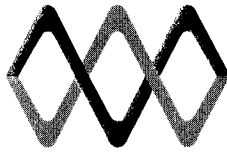
<i>Eligibility:</i>	Three years of Allowable Service.
<i>Amount:</i>	<p>Benefit computed under law in effect at termination and increased by the following percentage compounded annually: 0% before 7/1/71; 5% from 7/1/71 to 1/1/81; and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.</p> <p>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%.</p>

SUMMARY OF SIGNIFICANT CHANGES

1. Increase in both Member and Employer contribution rates to 4.23% and 4.48%, respectively, at July 1, 1997 and again to 4.75% and 5.18%, respectively, at January 1, 1998. Additional Employer rate of 0.43% (which is included in the 5.18%) is repealed when full funding is reached.
2. Normal Retirement Age can be no greater than age 66 for employees hired after June 30, 1989.
3. All benefit rate factors are increased by .2%.
4. Added 25% and 75% Joint & Survivor with bounceback options.
5. Post-retirement benefit increases are paid on excess earnings over 6% instead of 5%. For those who do not receive the new benefit rate factors, a one-time increase in their benefit is made, equal in cost to the change in the post-retirement benefit increase change.

Public Employees Police and Fire Fund
ACTUARIAL VALUATION REPORT

July 1, 1997



MILLIMAN & ROBERTSON, INC.

Actuaries & Consultants

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November 19, 1997

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, 1997.

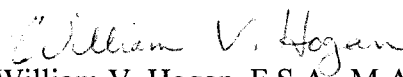
The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Public Employees Retirement Association.

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

Public Employees Police and Fire Fund

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Public Employees Police and Fire Fund

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Public Employees Police and Fire Fund

Report Highlights

(dollars in thousands)

	<u>07/01/96 Valuation</u>	<u>07/01/97 Valuation</u>
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 353 % of Payroll	19.00%	19.00%
2. Required Contributions - Chapter 356 % of Payroll	15.11%	15.21%
3. Sufficiency (Deficiency): (A.1. - A.2.)	<u>3.89%</u>	<u>3.79%</u>
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$1,633,010	\$1,974,635
b. Current Benefit Obligations (Table 8)	<u>\$1,243,429</u>	<u>\$1,491,292</u>
c. Funding Ratio: (a/b)	131.33%	132.41%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$1,633,010	\$1,974,635
b. Actuarial Accrued Liability (Table 9)	<u>\$1,334,202</u>	<u>\$1,556,483</u>
c. Funding Ratio: (a/b)	122.40%	126.87%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$2,453,950	\$2,759,995
b. Current and Expected Future Benefit Obligations	<u>\$2,209,297</u>	<u>\$2,518,903</u>
c. Funding Ratio: (a/b)	111.07%	109.57%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	7,680	8,079
b. Projected Annual Earnings	\$336,779	\$369,503
c. Average Annual Earnings (Actual \$)	\$43,851	\$45,736
d. Average Age	38.3	38.4
e. Average Service	10.5	10.4
2. Others		
a. Service Retirements (Table 4)	1,524	1,608
b. Survivors (Table 5)	447	471
c. Disability Retirements (Table 6)	184	215
d. Deferred Retirements (Table 7)	267	292
e. Terminated Other Non-vested (Table 7)	<u>162</u>	<u>201</u>
f. Total	2,584	2,787

Public Employees Police and Fire Fund

Commentary

Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- ° The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 132.41%. The corresponding ratio for the prior year was 131.33%.
- ° 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 1997 the ratio is 126.87%, which is an increase from the 1996 value of 122.40%.
- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 109.57% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines E1 to E6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

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

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

Actuarial Balance Sheet (Table 8)

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

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 have been added to fulfill the new requirements of Statement No. 25. For this transition year only, disclosure in accordance with Statement No. 5 is shown below as of JULY 1, 1997:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$567,300,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$222,964,000
Employer-financed vested	593,821,000
Employer-financed nonvested	<u>107,207,000</u>
Total Pension Benefit Obligation	\$1,491,292,000
Net Assets Available for Benefits at Cost	\$1,924,375,000
Total Benefit Obligation less Assets	(\$433,083,000)
Funded Ratio	129.04%

Actuarial Cost Method (Table 9)

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

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

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

Sources of Actuarial Gains and Losses (Table 10)

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

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 19.00% compared to the Required Contribution Rate of 15.21%.

Changes in Actuarial Assumptions

Assumptions were changed this year as summarized below:

	ASSUMPTION CHANGED <u>FROM</u>	<u>TO</u>
Salary Increase:	Level 6.5%	5.0% base plus Merit and Longevity Scale
Payroll Growth	6.5%	6.0%
Retirement Age	60	Age-related table
Annuitant Mortality	1971GAM Projected to 1984 by Scale D (M or F)	1983GAM (M or F)
Active Mortality	1971GAM Projected to 1984 by Scale D (M or F)	1983GAM (M or F) with 5 year setback

Changes in Plan Provisions

This valuation reflects the new plan provisions which became effective July 1, 1997. Substantive provisions of that legislation included:

1. Increase in the benefit rate factor to 3.0%.
2. Addition of 25% and 75% Joint and Survivor bounceback options.
3. Post-retirement benefit increases now paid in excess of 6% rather than 5% of earnings with corresponding benefit increases for Members who do not receive the new benefit rates in (1.)

TABLE 1

Public Employees Police and Fire Fund

Statement of Plan Net Assets*(dollars in thousands)*

JULY 1, 1997

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	\$11,410	\$11,410
2. Fixed Income	378,479	371,951
3. Equity	1,180,393	1,035,042
4. Real Estate	55,624	56,722
5. Equity in MPRIF	466,176	466,176
6. Other	0	0
Subtotal	<u>\$2,092,082</u>	<u>\$1,941,301</u>
B. ASSETS RECEIVABLE	110	110
C. LIABILITIES	(17,036)	(17,036)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	466,176	466,176
2. Member Reserves	230,492	230,492
3. Other Non-MPRIF Reserves	1,378,488	1,227,707
4. Total Assets Available for Benefits	<u>\$2,075,156</u>	<u>\$1,924,375</u>
<hr/>		
E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$1,924,375
2. Market Value (D5)	\$2,075,156	
3. Cost Value (D5)	<u>1,924,375</u>	
4. Market Over Cost: (E2-E3)	\$150,781	
5. One-third of Market Over Cost: (E4)/3		50,260
6. Actuarial Value of Assets (E1+E5) (Same as "Current Assets")		<u>\$1,974,635</u>

TABLE 2

Public Employees Police and Fire Fund

Statement of Change In Plan Net Assets*(dollars in thousands)*

YEAR ENDING JUNE 30, 1997

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$1,713,688	\$1,592,672
B. ADDITIONS		
1. Member Contributions	\$26,354	\$26,354
2. Employer Contributions	39,508	39,508
3. Contributions From Other Sources	0	0
4. MPRIF Income	49,852	49,852
5. Net Investment Income		
a. Interest and Dividends	144,619	144,619
b. Net Realized Gain (Loss)	118,039	118,039
c. Net Change in Unrealized Gain (Loss)	29,764	0
d. Investment Expenses	(2,161)	(2,161)
Net Subtotal	290,261	260,497
6. Other	59	59
7. Total Additions	<u>\$406,034</u>	<u>\$376,269</u>
C. OPERATING EXPENSES		
1. Service Retirements paid from MPRIF	\$36,130	\$36,130
2. Service Retirements paid from plan assets	60	60
2. Disability Benefits	4,125	4,125
3. Survivor Benefits	2,730	2,730
4. Refunds	933	933
6. Administrative Expenses	427	427
7. Other	161	161
8. Total Disbursements	<u>\$44,566</u>	<u>\$44,566</u>
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	<u><u>\$2,075,156</u></u>	<u><u>\$1,924,375</u></u>

TABLE 3

PUBLIC EMPLOYEES POLICE AND FIRE FUND

ACTIVE MEMBERS AS OF JUNE 30, 1997

Age	Years of Service								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	110	88	1	0	0	0	0	0	199
25-29	244	815	195	0	0	0	0	0	1,254
30-34	107	547	726	216	0	0	0	0	1,596
35-39	40	256	497	557	205	1	0	0	1,556
40-44	20	89	213	354	478	189	0	0	1,343
45-49	52	56	87	151	287	432	98	0	1,163
50-54	2	23	33	65	99	201	238	20	681
55-59	2	12	18	14	28	41	62	29	206
60-64	0	3	9	11	6	14	19	10	72
65+	0	2	1	3	0	2	0	1	9
ALL	577	1,891	1,780	1,371	1,103	880	417	60	8,079

AVERAGE ANNUAL EARNINGS

Age	Years of Service								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	20,365	27,701	33,102	0	0	0	0	0	23,673
25-29	21,911	35,631	42,025	0	0	0	0	0	33,956
30-34	23,624	37,536	45,964	45,933	0	0	0	0	41,574
35-39	21,155	37,949	46,270	48,233	49,175	45,982	0	0	45,341
40-44	23,125	37,747	43,192	48,786	49,779	48,039	0	0	47,033
45-49	22,180	36,799	41,118	45,578	49,104	49,974	50,087	0	46,659
50-54	11,457	36,353	39,346	44,579	45,576	49,312	52,347	56,109	48,546
55-59	38,375	29,729	42,543	32,483	35,858	48,179	49,826	51,799	44,781
60-64	0	44,659	25,542	47,066	35,891	34,517	48,161	52,488	41,946
65+	0	37,095	12,757	27,347	0	22,706	0	45,947	28,927
ALL	21,969	36,248	44,763	47,332	48,685	49,011	51,250	53,253	42,974

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

Age	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	12,676	68,545	79,678	64,892	53,700	43,130	21,371	3,195	347,187

TABLE 4

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	1	0	0	0	0	0	0	1
50-54	32	44	0	0	0	0	0	76
55-59	72	228	30	0	0	0	0	330
60-64	17	138	188	0	0	0	0	343
65-69	4	64	99	154	0	0	0	321
70-74	0	6	57	112	74	0	0	249
75-79	0	1	8	58	59	19	0	145
80-84	0	0	0	10	45	39	4	98
85+	0	0	0	5	3	26	11	45
ALL	126	481	382	339	181	84	15	1,608

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	11,889	0	0	0	0	0	0	11,889
50-54	23,528	18,594	0	0	0	0	0	20,672
55-59	29,302	28,964	21,503	0	0	0	0	28,360
60-64	26,356	26,333	25,296	0	0	0	0	25,766
65-69	14,879	16,793	24,142	27,177	0	0	0	24,017
70-74	0	27,420	16,265	25,236	24,747	0	0	23,090
75-79	0	12,558	20,759	17,226	21,101	24,517	0	19,921
80-84	0	0	0	17,385	17,717	14,316	12,262	16,107
85+	0	0	0	9,593	17,409	13,030	9,325	12,034
ALL	26,842	25,588	23,257	24,285	21,689	16,225	10,108	23,785

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	3,382	12,307	8,884	8,232	3,925	1,362	151	38,246

TABLE 5

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SURVIVORS AS OF JUNE 30, 1997

<u>Age</u>	<u>YEARS SINCE DEATH</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	7	18	22	9	2	0	0	58
50-54	0	8	6	6	4	2	0	26
55-59	1	8	10	9	1	0	2	31
60-64	0	5	10	14	10	4	1	44
65-69	0	2	18	24	15	7	2	68
70-74	0	0	6	31	27	13	7	84
75-79	0	0	2	13	23	17	5	60
80-84	0	2	3	10	13	15	10	53
85+	0	0	4	6	8	13	16	47
ALL	8	43	81	122	103	71	43	471

AVERAGE ANNUAL BENEFIT

<u>Age</u>	<u>YEARS SINCE DEATH</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	15,900	25,853	19,777	20,677	17,768	0	0	21,265
50-54	0	21,912	17,661	18,081	16,378	13,285	0	18,532
55-59	25,696	16,790	17,901	20,036	16,404	0	4,642	17,582
60-64	0	24,058	19,488	19,821	16,635	13,548	3,261	18,556
65-69	0	13,672	12,474	17,864	14,361	10,045	3,372	14,310
70-74	0	0	7,149	15,668	13,680	9,108	3,950	12,429
75-79	0	0	5,918	12,195	12,473	11,664	5,309	11,368
80-84	0	5,036	6,050	8,995	14,255	8,493	5,323	9,134
85+	0	0	5,509	8,807	7,761	6,135	5,471	6,474
ALL	17,125	21,690	15,240	16,133	13,620	9,506	4,983	13,937

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DEATH

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	137	932	1,234	1,968	1,402	674	214	6,564

TABLE 6

PUBLIC EMPLOYEES POLICE AND FIRE FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1997

Age	YEARS DISABLED							ALL
	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	17	41	24	8	0	0	0	90
50-54	3	35	18	3	5	2	0	66
55-59	9	32	2	0	2	1	0	46
60-64	1	8	0	0	0	0	0	9
65-69	0	4	0	0	0	0	0	4
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	30	120	44	11	7	3	0	215

AVERAGE ANNUAL BENEFIT

Age	YEARS DISABLED							ALL
	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	18,942	19,926	21,425	17,772	0	0	0	19,948
50-54	35,891	23,909	23,024	22,197	20,245	13,734	0	23,549
55-59	27,366	28,032	11,879	0	27,427	15,479	0	26,900
60-64	1,154	19,018	0	0	0	0	0	17,033
65-69	0	20,741	0	0	0	0	0	20,741
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	22,571	23,216	21,645	18,979	22,297	14,316	0	22,434

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	<u>≤1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	677	2,785	952	208	156	42	0	4,823

Public Employees Police and Fire Fund

TABLE 7

Reconciliation Of Members

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1996	7,680	267	162
B. ADDITIONS	682	67	84
C. DELETIONS			
1. Service Retirement	(102)	(14)	(5)
2. Disability	(29)	(5)	(1)
3. Death	(4)	(1)	(1)
4. Terminated - Deferred	(65)	0	0
5. Terminated - Refund	(27)	0	(79)
6. Terminated - Other Non-Vested	(54)	0	0
7. Returned as Active	0	(8)	(24)
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	(2)	(14)	65
Vested	6,458		
Non-Vested	1,621		
E. TOTAL ON JUNE 30, 1997	8,079	292	201

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1996	1,524	184	447
B. ADDITIONS	137	39	30
C. DELETIONS			
1. Service Retirement	0	(6)	0
2. Death	(53)	(2)	(7)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	0	0	1
E. TOTAL ON JUNE 30, 1997	1,608	215	471

TABLE 8

Public Employees Police and Fire Fund

Actuarial Balance Sheet*(dollars in thousands)*

JULY 1, 1997

A. CURRENT ASSETS (TABLE 1, E6)				\$1,974,635
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)				(\$177,060)
2. Present Value of Future Normal Costs				962,420
3. Total Expected Future Assets				<u>\$785,360</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				<u>\$2,759,995</u>
D. CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total	
1. Benefit Recipients				
a. Retirement Annuities		\$431,014	\$431,014	
b. Disability Benefits		45,520	45,520	
c. Surviving Spouse and Child Benefits		71,646	71,646	
2. Deferred Retirements with Future Augmentation		18,839	18,839	
3. Former Members without Vested Rights		281	281	
4. Active Members				
a. Retirement Annuities	6,243	734,885	741,128	
b. Disability Benefits	70,115	0	70,115	
c. Survivor's Benefits	28,223	0	28,223	
d. Deferred Retirements	2,626	80,871	83,497	
e. Refund Liability Due to Death or Withdrawal	0	1,029	1,029	
5. Total Current Benefit Obligations	<u>\$107,207</u>	<u>\$1,384,085</u>	<u>\$1,491,292</u>	
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$1,027,611</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				<u>\$2,518,903</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				(\$483,343)
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				(\$241,092)

TABLE 9

Public Employees Police and Fire Fund

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

JULY 1, 1997

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$1,590,224	\$696,488	\$893,736
b. Disability Benefits	142,330	89,652	52,678
c. Survivor's Benefit	56,786	35,239	21,547
d. Deferred Retirements	159,969	139,053	20,916
e. Refunds Due to Death or Withdrawal	2,294	1,988	306
f. Total	<u>\$1,951,603</u>	<u>\$962,420</u>	<u>\$989,183</u>
2. Deferred Retirements With Future Augmentation	18,839		18,839
3. Former Members Without Vested Rights	281		281
4. Annuitants in MPRIF	466,176		466,176
5. Recipients Not in MPRIF	<u>82,004</u>		<u>82,004</u>
6. Total	<u>\$2,518,903</u>	<u>\$962,420</u>	<u>\$1,556,483</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$1,556,483
2. Current Assets (Table 1, E6)			<u>1,974,635</u>
3. UAAL (B1-B2)			<u>(\$418,152)</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			\$6,369,047
2. Supplemental Contribution Rate (B3/C1)			-6.57%

Public Employees Police and Fire Fund

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

YEAR ENDING JUNE 30, 1997

A. UAAL AT BEGINNING OF YEAR	(\$298,808)
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$50,903
2. Contribution	(65,862)
3. Interest on A, B1 and B2	<u>(26,034)</u>
4. Total (B1+B2+B3)	<u>(\$40,993)</u>
C. EXPECTED UAAL AT END OF YEAR (A+B4)	(\$339,801)
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$8,200)
2. Investment Return	(167,811)
3. MPRIF Mortality	(390)
4. Mortality of Other Benefit Recipients	3,319
5. Other Items	<u>30,709</u>
6. Total	<u>(\$142,373)</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	(\$482,174)
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	31,635
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	<u>32,387</u>
H. UAAL AT END OF YEAR (E+F+G)	<u><u>(\$418,152)</u></u>

TABLE 11

Public Employees Police and Fire Fund

Determination Of Contribution Sufficiency*(dollars in thousands)*

JULY 1, 1997

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	7.60%	\$28,082
2. Employer Contributions	11.40%	42,123
3. Total	19.00%	\$70,205
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	15.79%	\$58,359
b. Disability benefits	2.02%	7,482
c. Survivors	0.82%	3,039
d. Deferred Retirement Benefits	2.98%	10,994
e. Refunds Due to Death or Withdrawal	0.04%	146
f. Total	21.65%	\$80,020
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	-6.57%	(24,276)
3. Allowance for Expenses	0.13%	480
4. Total	15.21%	\$56,224
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-	3.79%	\$13,981

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1997 is \$369,503.

Public Employees Police and Fire Fund

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 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 as of June 30, 1989. 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 Contributions:	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.

TABLE 12
(Continued)

<i>Family Composition:</i>	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.
<i>Social Security:</i>	N/A
<i>Special Consideration:</i>	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
<i>Actuarial Cost Method:</i>	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
<i>Asset Valuation Method:</i>	Cost Value plus one-third Unrealized Gains or Losses.
<i>Payment on the Unfunded Actuarial Accrued Liability:</i>	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.0% per annum.

TABLE 12
(Continued)

Public Employees Police and Fire Fund

Summary of Actuarial Assumptions and Methods

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

Age	<u>Pre-Retirement</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>		<u>Salary Increases</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

TABLE 12
(Continued)

Public Employees Police and Fire Fund

Summary of Actuarial Assumptions and Methods

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

Age	<u>Pre-Retirement</u> <u>Death</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>		<u>Salary Increases</u>
	Male	Female	Male	Female	Male	Female	Male	Female	
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

Public Employees Police and Fire Fund

Summary of Plan Provisions**GENERAL**

<i>Eligibility:</i>	All full-time and certain part-time, police officers and fire fighters, who are not contributing to any other local retirement fund.
<i>Contributions:</i>	
<i>Member:</i>	7.6% of salary. Beginning July 1, 1994, automatically adjusted downward after four continuous years of sufficiencies at or above .5% of salary.
<i>Employer:</i>	11.4% of salary. Beginning July 1, 1994, automatically adjusted downward after four continuous years of sufficiencies at or above .5% of salary.
<i>Allowable Service:</i>	Police and fire service during which Member contributions were deducted. May also include certain leaves of absence and military service.
<i>Salary:</i>	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' Compensation benefits.
<i>Average Salary:</i>	Average of the five highest successive years of salary. Average salary is based on all Allowable Service if less than five years.

RETIREMENT*Normal Retirement Benefit:*

<i>Eligibility:</i>	Age 55 and three years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.
<i>Amount:</i>	3.0% of Average Salary for each year of Allowable Service.

Early Retirement Benefit:

<i>Eligibility:</i>	Age 50 and three years of Allowable Service.
<i>Amount:</i>	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date and a 0.2%* reduction for each month the Member is under age 55.
<i>Form of Payment:</i>	<p>Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:</p> <p>25%, 50%, 75% or 100% joint and survivor with bounce back feature without additional reduction.</p>
<i>Benefit Increases:</i>	<p>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.</p> <p>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.</p>

****Effective July 1, 1996. Prior to that date, 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.

TABLE 13
(Continued)

Retirement Benefits:

<i>Eligibility:</i>	Age 55
<i>Amount:</i>	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.
<i>Benefit Increases:</i>	Same as for retirement.

DEATH

Surviving Spouse Benefit:

<i>Eligibility:</i>	Active or Disabled Member with surviving spouse, married for at least one year unless death in the line of duty.
<i>Amount:</i>	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:

<i>Eligibility:</i>	Active or Disabled Member with dependent child.
<i>Amount:</i>	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

1. Benefit rate factor increased to 3.0% from 2.65%.
2. Added 25% and 75% Joint & Survivor bounceback options.
3. Post-retirement benefit increases paid on earnings in excess of 6% instead of 5%. For Members who do not receive the 3.0% benefit rate increase, a one-time increase in their benefits is made equal in cost to the change in the post-retirement benefit increase change.

TABLE 14

Public Employees Police and Fire Fund

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%

TABLE 15

Public Employees Police and Fire Fund
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*	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%

* Includes contributions from other sources (if applicable).