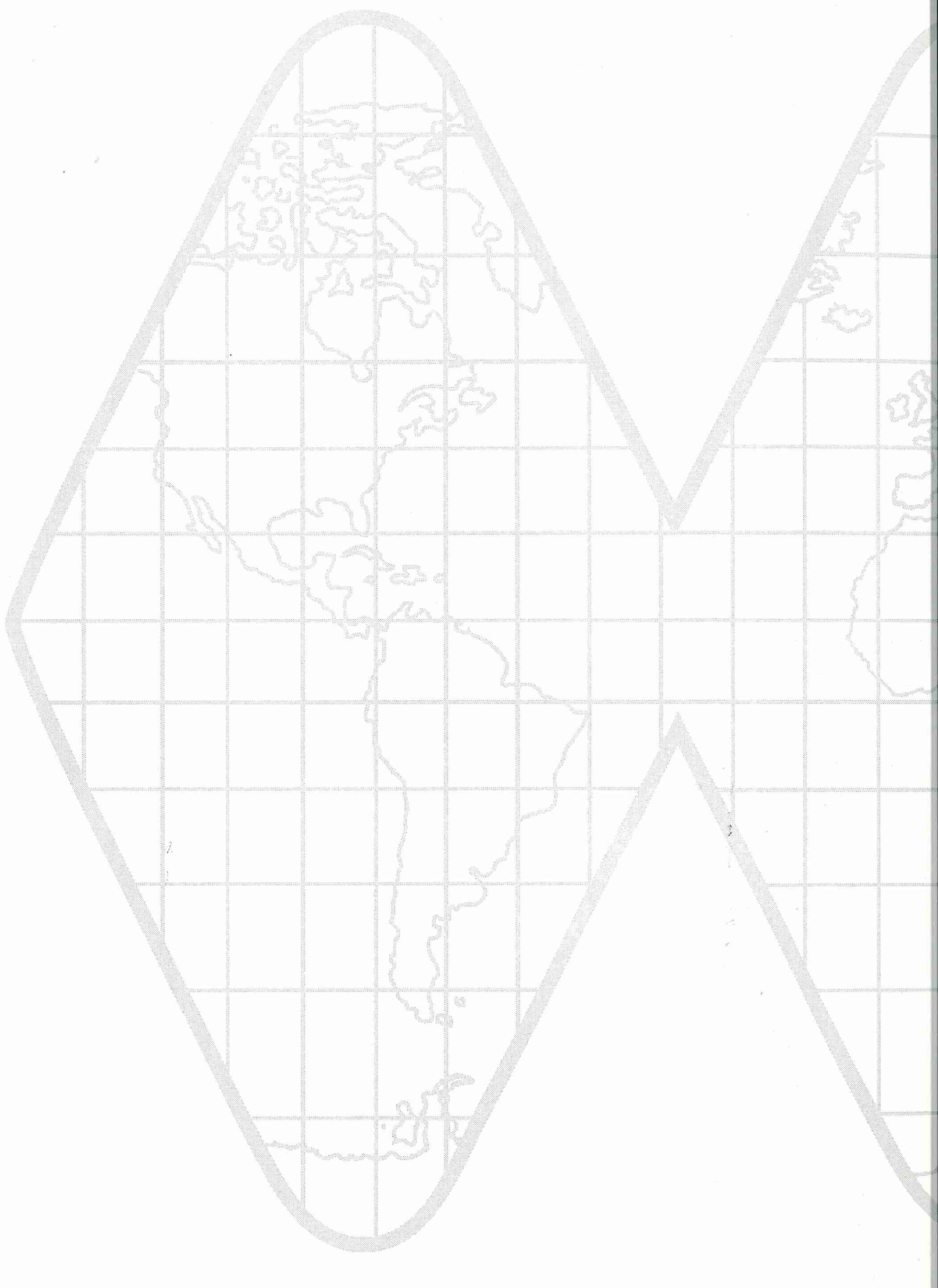

Milliman & Robertson, Inc.
Actuaries and Consultants

State Employees Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 2000

MILLIMAN & ROBERTSON, INC.

MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

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

December 1, 2000

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

RE: State Employees Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 2000.

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

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

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

William V. Hogan

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

TKC/WVH/bh

State Employees Retirement Fund

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Report Highlights

(dollars in thousands)

	07/01/1999 Valuation	07/01/2000 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352 % of Payroll	8.00%	8.00%
2. Required Contributions - Chapter 356 % of Payroll	7.67%	7.12%
3. Sufficiency (Deficiency): (A.1. - A.2.)	0.33%	0.88%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$5,968,692	$6,744,165
b. Current Benefit Obligations (Table 8)	$4,950,945	$5,658,602
c. Funding Ratio: (a/b)	120.56%	119.18%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$5,968,692	$6,744,165
b. Actuarial Accrued Liability (Table 9)	$5,464,207	$6,105,703
c. Funding Ratio: (a/b)	109.23%	110.46%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$7,147,463	$7,970,626
b. Current and Expected Future Benefit Obligations	$6,557,330	$7,660,383
c. Funding Ratio: (a/b)	109.00%	104.05%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	47,168	47,920
b. Projected Annual Earnings	$1,757,716	$1,900,124
c. Average Annual Earnings (Projected $)	$37,265	$39,652
d. Average Age	44.1	44.3
e. Average Service	11.7	11.7
2. Others		
a. Service Retirements (Table 4)	15,670	16,276
b. Survivors (Table 5)	1,811	1,955
c. Disability Retirements (Table 6)	1,007	1,070
d. Deferred Retirements (Table 7)	10,663	11,125
e. Terminated Other Non-vested (Table 7)	8,220	7,772
f. Total	37,371	38,198

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 119.18%. The corresponding ratio for the prior year was 120.56%
- 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 2000 the ratio is 110.46%, which is an increase from the 1999 value of 109.23%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 104.05% shows that the current statutory contributions are adequate.

Asset Information (Tables 1 and 2)

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

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

> Market Value of Assets at June 30, 2000, *less*
>
> 80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and 06/30/2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less*
>
> 60% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on 06/30/99 and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

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

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

Actuarial Balance Sheet (Table 8)

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

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

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

GASB Disclosure

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

Actuarial Cost Method (Table 9)

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

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

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

Source of Actuarial Gains and Losses (Table 10)

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

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 8.00% compared to the Required Contribution Rate of 7.12%.

Changes in Actuarial Assumptions and Methods

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

State Employees Retirement Fund

Summary of Assumption Changes

Assumption	Previous	Current
Salary increases	Merit table that ranges from 7.75% at age 20 down to 5.25% at age 70	Ten year select and ultimate table. During the select period, 0.2% x (10 - T) where T is completed years of service is added to the ultimate rate. Ultimate table ranges from 6.75% at age 20 down to 5.0% at age 70
Male Pre-Retirement Mortality	1983 GAM (Male - 4)	1983 GAM (Male - 5)
Female Pre-Retirement Mortality	1983 GAM (Female - 2)	1983 GAM (Female - 2)
Male Post-Retirement Mortality	1983 GAM (Male)	1983 GAM (Male - 1)
Female Post-Retirement Mortality	1983 GAM (Female)	1983 GAM (Female - 1)
Male Post-Disability Mortality	Combined Annuity Mortality Table	1965 RRB to age 54, graded mortality rates between 1965 RRB and the Combined Annuity Table between ages 55 and 64, the Combined Annuity Table for ages 65 and later
Female Post-Disability Mortality	Combined Annuity Mortality Table	1965 RRB to age 54, graded mortality rates between 1965 RRB and the Combined Annuity Table between ages 55 and 64, the Combined Annuity Table for ages 65 and later
Retirement Age	Graded rates beginning at age 58. In addition, 25% of Members are assumed to retire each year that they are eligible for the Rule of 90.	Graded rates beginning at age 55. A different set of rates applies if the Member is eligible for the Rule of 90.
Separation Decrement	Graded rates.	Select and ultimate table. Rates during the select period are based on gender. Ultimate rates are gender based and generally lower than current rates.
Disability Decrement	Age-related and gender-related rates.	Age-related and gender-related rates. Recommended rates are modestly lower than current rates.
Form of Annuity Selected - Male	25% elect 50% J&S option 45% elect 100% J&S option	25% elect 50% J&S option 45% elect 100% J&S option
Form of Annuity Selected - Female	5% elect 50% J&S option 5% elect 100% J&S option	10% elect 50% J&S option 10% elect 100% J&S option
Combined Service Annuity Load Factor	None	1.0% load on liabilities for active and deferred vested participants.

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

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

Changes in Plan Provisions

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

State Employees Retirement Fund

Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2000

	Market Value	Cost Value
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	$64,399	$64,399
2. Fixed Income	1,135,624	1,152,778
3. Equity	3,341,411	2,937,196
4. Real Estate	168,015	138,127
5. Equity in MPRIF	2,462,349	2,462,349
6. Other	534	534
Subtotal	$7,172,332	$6,755,383
B. ASSETS RECEIVABLE	5,779	5,779
C. LIABILITIES	(107,184)	(107,184)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	2,462,349	2,462,349
2. Member Reserves	722,921	722,921
3. Other Non-MPRIF Reserves	3,885,657	3,468,708
4. Total Assets Available for Benefits	$7,070,927	$6,653,978

E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Market Value of Assets Available for Benefits (D4)		$7,070,927
2. Unrecognized Asset Returns (UAR)		
a. June 30, 2000	$87,707	
b. June 30, 1999	427,661	
3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)		326,762
4. Actuarial Value of Assets (E1 - E3) (Same as "Current Assets")		6,744,165

State Employees Retirement Fund

Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

	Non-MPRIF Assets	MPRIF Reserve	Market Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$4,341,559	$2,054,794	$6,396,353
B. ADDITIONS			
1. Member Contributions	$70,378	$0	$70,378
2. Employer Contributions	69,322	0	69,322
3. Contributions From Other Sources	0	0	0
4. MPRIF Income	0	344,877	344,877
5. Net Investment Income			
a. Interest and Dividends	678,508	0	678,508
b. Net Realized Gain (Loss)	0	0	0
c. Net Change in Unrealized Gain (Loss)	(224,545)	0	(224,545)
d. Investment Expenses	(6,204)	0	(6,204)
e. **Net Subtotal**	447,759	0	447,759
6. Other	5,260	0	5,260
7. Total Additions	$592,719	$344,877	$937,596
C. OPERATING EXPENSES			
1. Service Retirements	$637	$237,188	$237,825
2. Disability Benefits	0	0	0
3. Survivor Benefits	0	0	0
4. Refunds	11,227	0	11,227
5. Administrative Expenses	3,701	0	3,701
6. Other	10,269	0	10,269
7. Total Disbursements	$25,834	$237,188	$263,022
D. OTHER CHANGES IN RESERVES			
1. Annuities Awarded	(201,418)	201,418	0
2. Mortality Gain/Loss	(10,660)	10,660	0
3. Change in MPRIF Assumptions	(87,788)	87,788	0
4. Total Other Changes	(299,866)	299,866	0
E. ASSETS AVAILABLE AT END OF PERIOD	$4,608,578	$2,462,349	$7,070,927

F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN	
1. Average Balance	
(a) Non-MPRIF Assets Available at Beginning of Period	4,341,559
(b) Non-MPRIF Assets Available at End of Period*	4,707,026
(c) Average Balance { [F1.a + F1.b - B5.e - B6] / 2 }	4,297,783
2. Expected Return: .085 * F1.c	365,312
3. Actual Return	453,019
4. Current Year Unrecognized Asset Return: F3 - F2	87,707

* *Before adjustment for MPRIF mortality gain/loss and new MPRIF assumptions*

STATE EMPLOYEES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 2000

Years of Service

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	1,242	346	8	0	0	0	0	0	1,596
25-29	1,546	1,459	229	3	0	0	0	0	3,237
30-34	1,176	1,716	1,038	285	12	0	0	0	4,227
35-39	1,163	1,521	1,407	1,234	634	68	0	0	6,027
40-44	753	1,557	1,408	1,647	1,410	964	35	0	7,774
45-49	816	1,219	1,331	1,652	1,271	1,739	1,041	34	9,103
50-54	502	951	1,146	1,260	963	1,532	1,286	756	8,396
55-59	234	466	465	778	556	705	687	897	4,788
60-64	95	196	273	305	319	312	263	412	2,175
65+	53	95	97	92	81	66	50	63	597
ALL	7,580	9,526	7,402	7,256	5,246	5,386	3,362	2,162	47,920

AVERAGE ANNUAL EARNINGS

Years of Service

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	17,644	25,038	22,860	0	0	0	0	0	19,273
25-29	21,998	28,996	31,763	30,473	0	0	0	0	25,851
30-34	25,484	31,158	36,819	37,194	31,664	0	0	0	31,378
35-39	27,095	33,828	38,459	41,407	38,421	38,029	0	0	35,692
40-44	23,600	33,456	39,206	42,222	42,381	41,307	37,936	0	38,012
45-49	23,180	34,435	39,309	43,223	43,645	44,912	44,156	42,403	40,162
50-54	24,320	34,321	40,390	42,250	42,825	46,739	49,787	47,227	42,514
55-59	22,013	33,329	38,933	42,611	41,595	45,368	49,698	50,993	43,219
60-64	21,292	29,462	38,030	40,404	38,821	43,621	44,135	50,421	40,863
65+	18,176	15,035	35,974	42,604	39,157	39,609	40,590	49,495	34,731
ALL	23,013	32,052	38,580	42,084	41,916	44,620	47,323	49,388	37,495

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

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	174	305	285	305	219	240	159	106	1,796

STATE EMPLOYEES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 2000

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	13	13	0	0	0	0	0	26
55-59	356	504	8	0	0	0	0	868
60-64	518	1,149	568	7	0	0	0	2,242
65-69	218	1,366	1,471	386	0	0	0	3,441
70-74	41	258	1,675	1,132	154	0	0	3,260
75-79	10	54	344	1,512	868	15	0	2,803
80-84	3	13	51	211	1,248	414	7	1,947
85+	0	0	0	4	170	839	676	1,689
ALL	1,159	3,357	4,117	3,252	2,440	1,268	683	16,276

AVERAGE ANNUAL BENEFIT

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	10,147	11,905	0	0	0	0	0	11,026
55-59	11,930	10,416	14,070	0	0	0	0	11,071
60-64	12,728	12,993	13,096	13,072	0	0	0	12,958
65-69	11,766	12,351	14,663	18,834	0	0	0	14,030
70-74	8,314	11,007	13,546	15,724	18,131	0	0	14,252
75-79	7,367	8,851	13,981	12,824	15,175	14,236	0	13,606
80-84	9,082	8,166	14,333	11,744	12,452	13,930	7,575	12,688
85+	0	0	0	11,337	12,145	9,961	9,261	9,904
ALL	12,061	12,103	13,930	14,476	13,758	11,307	9,244	13,103

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	13,978	40,629	57,349	47,075	33,569	14,337	6,313	213,264

STATE EMPLOYEES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 2000

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	25	64	30	9	1	1	0	130
50-54	12	33	12	7	2	0	0	66
55-59	19	47	41	9	4	0	0	120
60-64	26	62	64	22	4	0	2	180
65-69	26	68	77	42	13	0	1	227
70-74	33	97	98	68	41	6	4	347
75-79	30	97	90	48	60	30	9	364
80-84	14	65	90	37	30	34	14	284
85+	8	36	52	23	10	25	83	237
ALL	193	569	554	265	165	96	113	1,955

AVERAGE ANNUAL BENEFIT

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	8,386	7,587	5,840	8,371	5,232	780	0	7,321
50-54	10,003	9,730	6,730	8,135	4,987	0	0	8,921
55-59	9,568	12,778	11,168	9,042	9,041	0	0	11,315
60-64	10,283	11,958	10,024	13,257	8,514	0	10,539	11,095
65-69	15,045	12,616	13,105	9,988	10,418	0	3,932	12,410
70-74	14,657	14,366	13,912	12,252	12,318	10,939	5,299	13,445
75-79	14,109	12,581	11,929	9,994	12,905	12,152	6,544	12,073
80-84	11,133	14,338	10,784	12,997	12,088	10,164	8,266	11,842
85+	9,931	10,093	8,763	8,523	10,962	10,772	8,286	9,119
ALL	11,981	12,154	11,241	10,998	11,954	10,894	8,040	11,405

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	2,312	6,915	6,227	2,914	1,972	1,045	908	22,296

STATE EMPLOYEES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	35	70	39	8	0	0	0	152
50-54	20	60	32	10	3	0	0	125
55-59	32	67	46	11	4	2	0	162
60-64	20	91	69	22	4	1	2	209
65-69	1	29	66	29	7	5	0	137
70-74	0	0	28	38	21	6	2	95
75-79	0	0	0	13	36	38	9	96
80-84	0	0	0	0	9	38	10	57
85+	0	0	0	0	1	15	21	37
ALL	108	317	280	131	85	105	44	1,070

AVERAGE ANNUAL BENEFIT

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	6,186	7,765	7,156	3,519	0	0	0	7,022
50-54	9,632	9,901	9,715	9,143	6,700	0	0	9,673
55-59	12,137	10,180	12,098	10,417	9,460	7,596	0	11,078
60-64	11,978	9,611	10,907	7,576	8,808	6,190	4,582	9,971
65-69	4,210	12,190	10,339	10,596	5,768	8,343	0	10,434
70-74	0	0	8,894	8,576	10,890	9,504	6,804	9,203
75-79	0	0	0	6,534	9,915	9,253	7,839	9,001
80-84	0	0	0	0	7,984	8,660	7,326	8,319
85+	0	0	0	0	6,347	8,168	8,010	8,029
ALL	9,642	9,615	10,109	8,542	9,381	8,794	7,609	9,434

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	1,041	3,047	2,830	1,119	797	923	334	10,094

State Employees Retirement Fund

Reconciliation Of Members

	Actives	Terminated Deferred Retirement	Terminated Other Non-Vested
A. ON JUNE 30, 1999	47,168	10,663	8,220
B. ADDITIONS	5,730	1,305	2,116
C. DELETIONS			
1. Service Retirement	(800)	(303)	(4)
2. Disability	(89)	(18)	0
3. Death	(75)	(11)	(4)
4. Terminated - Deferred	(1,085)	0	(129)
5. Terminated - Refund	(1,471)	(279)	(550)
6. Terminated - Other Non-Vested	(1,756)	(2)	0
7. Returned as Active	374	(190)	(184)
8. Transferred to Other Fund	(8)	0	(1,667)
D. DATA ADJUSTMENTS	(68)	(40)	(26)
Vested	34,861		
Non-Vested	13,059		
E. TOTAL ON JUNE 30, 2000	47,920	11,125	7,772

	Recipients Retirement Annuitants	Recipients Disabled	Recipients Survivors
A. ON JUNE 30, 1999	15,670	1,007	1,811
B. ADDITIONS	1,166	110	191
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	(556)	(43)	(54)
3. Annuity Expired	0	0	0
4. Returned as Active	(1)	0	0
D. DATA ADJUSTMENTS	(3)	(4)	7
E. TOTAL ON JUNE 30, 2000	16,276	1,070	1,955

State Employees Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 2000

		Non-Vested	Vested	Total
A.	CURRENT ASSETS (TABLE 1, E6)			$6,744,165
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			($328,219)
	2. Present Value of Future Normal Costs			1,554,680
	3. Total Expected Future Assets			$1,226,461
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$7,970,626
D.	CURRENT BENEFIT OBLIGATIONS			
	1. Benefit Recipients			
	a. Retirement Annuities		$2,146,457	$2,146,457
	b. Disability Benefits		105,508	105,508
	c. Surviving Spouse and Child Benefits		212,949	212,949
	2. Deferred Retirements with Future Augmentation		413,051	413,051
	3. Former Members without Vested Rights		6,406	6,406
	4. Active Members			
	a. Retirement Annuities	22,655	2,344,005	2,366,660
	b. Disability Benefits	119,529	0	119,529
	c. Survivor's Benefits	67,636	0	67,636
	d. Deferred Retirements	5,244	201,183	206,427
	e. Refund Liability Due to Death or Withdrawal	0	13,979	13,979
	5. Total Current Benefit Obligations	$215,064	$5,443,538	$5,658,602
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$2,001,781
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$7,660,383
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			($1,085,563)
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			($310,243)

State Employees Retirement Fund

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

(dollars in thousands)

JULY 1, 2000

	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	$4,086,859	$1,134,073	$2,952,786
b. Disability Benefits	208,755	85,907	122,848
c. Survivor's Benefit	116,247	45,423	70,824
d. Deferred Retirements	334,612	187,681	146,931
e. Refunds Due to Death or Withdrawal	29,540	101,596	(72,056)
f. Total	$4,776,013	$1,554,680	$3,221,333
2. Deferred Retirements With Future Augmentation	413,051		413,051
3. Former Members Without Vested Rights	6,406		6,406
4. Annuitants in MPRIF	2,462,349		2,462,349
5. Recipients Not in MPRIF	2,564		2,564
6. Total	$7,660,383	$1,554,680	$6,105,703

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$6,105,703
2. Current Assets (Table 1, E6)	6,744,165
3. UAAL (B1-B2)	($638,462)
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2030	$35,292,345
2. Supplemental Contribution Rate (B3/C1)	-1.81%

State Employees Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	($504,485)
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	1. Normal Cost and Expenses	$134,623
	2. Contribution	(139,700)
	3. Interest on A, B1 and B2	(43,097)
	4. Total (B1+B2+B3)	($48,174)
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	($552,659)
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	1. Salary Increases	$56,601
	2. Investment Return	(267,091)
	3. MPRIF Mortality	10,660
	4. Mortality of Other Benefit Recipients	(49)
	5. Other Items	44,563
	6. Total	($155,316)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	($707,975)
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	48,797
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	20,716
H.	UAAL AT END OF YEAR (E+F+G)	($638,462)

State Employees Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 352		
1. Employee Contributions	4.00%	$76,005
2. Employer Contributions	4.00%	76,005
3. Total	8.00%	$152,010
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	6.47%	$122,877
b. Disability Benefits	0.46%	8,756
c. Survivors	0.25%	4,682
d. Deferred Retirement Benefits	0.99%	18,776
e. Refunds Due to Death or Withdrawal	0.55%	10,500
f. Total	8.72%	$165,591
2. Supplemental Contribution Amortization by July 1, 2030 of UAAL	-1.81%	(34,392)
3. Allowance for Expenses	0.21%	3,990
4. Total	7.12%	$135,189
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	0.88%	$16,821

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is $1,900,124.

State 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 ultimate rate table on pages 21 and 22. During a 10-year select period, 0.2% x (10 - T) where T is completed years of service is added to the ultimate rate.
Mortality:	**Pre-Retirement**: Male - 1983 Group Annuity Mortality Table for males setback five years. Female - 1983 Group Annuity Mortality Table for females set back two years. **Post-Retirement**: Male - 1983 Group Annuity Mortality Table for males setback one year. Female - 1983 Group Annuity Mortality Table for females setback one year. **Post-Disability**: Male - 1965 RRB rates through age 54. For ages 55 to 64, graded rates between 1965 RRB rates and the Post-Retirement mortality table. For ages 65 and later, the Post-Retirement mortality table. Female - 1965 RRB rates through age 54. For ages 55 to 64, graded rates between 1965 RRB rates and the Post-Retirement mortality table. For ages 65 and later, the Post-Retirement mortality table.

Retirement Age:	Graded rates beginning at age 55 as shown in rate table. Members who have attained the highest assumed retirement age will retire in one year.
Separation:	Select and ultimate rates based on recent plan experience. Ultimate rates after the third year are shown in rate table. Select rates are as follows:

	First Year	Second Year	Third Year
Males	0.40	0.10	0.055
Females	0.44	0.11	0.07

Disability:	Rates as shown in rate table.
Allowance for Combined Service Annuity:	Liabilities for active and deferred vested participants are increased by 1.0% to account for the effect of some participants having eligibility for a Combined Service Annuity.
Expenses:	Prior year administration expenses expressed as a percentage of prior year payroll.
Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Family Composition:	85% of Members are assumed to be married. Female is three years younger than male.
Social Security:	N/A
Special Consideration:	Married Members assumed to elect subsidized joint and survivor form of annuity as follows:

Males -	25% elect 50% J&S option 45% elect 100% J&S option
Females -	10% elect 50% J&S option 10% elect 100% J&S option

Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Market Value less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during the fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Pre-Retirement Death		Withdrawal		Disability		Retirement Rule of 90		Salary
Age	Male	Female	Male	Female	Male	Female	Eligible	Other	Increases
20	3	2	560	632	0	0	0	0	6.75%
21	3	2	530	616	0	0	0	0	6.70%
22	3	2	500	600	0	0	0	0	6.65%
23	4	2	470	584	0	0	0	0	6.60%
24	4	2	440	568	0	0	0	0	6.55%
25	4	2	410	552	0	1	0	0	6.50%
26	4	2	380	536	0	1	0	0	6.45%
27	4	3	350	520	0	1	0	0	6.40%
28	4	3	340	504	0	1	0	0	6.35%
29	4	3	330	488	1	2	0	0	6.30%
30	5	3	320	472	1	2	0	0	6.25%
31	5	3	310	456	2	2	0	0	6.20%
32	5	3	300	440	3	3	0	0	6.15%
33	5	4	290	424	4	3	0	0	6.10%
34	6	4	280	408	4	3	0	0	6.05%
35	6	4	270	392	5	4	0	0	6.00%
36	6	4	260	376	5	4	0	0	5.95%
37	7	5	250	360	6	5	0	0	5.90%
38	7	5	240	350	6	7	0	0	5.85%
39	8	5	230	340	6	9	0	0	5.80%
40	9	6	220	330	7	12	0	0	5.75%
41	9	6	210	320	7	14	0	0	5.70%
42	10	7	200	310	8	16	0	0	5.65%
43	10	7	194	308	8	18	0	0	5.60%
44	11	8	188	306	8	21	0	0	5.55%

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Pre-Retirement Death		Withdrawal		Disability		Retirement Rule of 90		Salary
Age	Male	Female	Male	Female	Male	Female	Eligible	Other	Increases
45	12	8	182	304	9	23	0	0	5.50%
46	14	9	176	302	9	26	0	0	5.45%
47	15	10	170	300	10	28	0	0	5.40%
48	17	11	166	298	13	29	0	0	5.35%
49	19	12	162	296	16	31	0	0	5.30%
50	22	14	158	294	19	33	0	0	5.25%
51	25	15	154	292	22	35	0	0	5.20%
52	28	16	150	290	25	36	0	0	5.15%
53	31	18	146	278	29	37	0	0	5.10%
54	35	19	142	266	32	39	0	0	5.05%
55	39	21	138	254	35	41	2,000	200	5.00%
56	43	23	134	242	39	43	2,000	200	5.00%
57	48	25	130	230	42	44	2,000	200	5.00%
58	52	28	87	153	47	48	2,000	200	5.00%
59	57	31	43	77	52	52	2,000	400	5.00%
60	61	34	0	0	57	56	2,500	800	5.00%
61	66	38	0	0	62	61	3,000	1,200	5.00%
62	71	42	0	0	68	66	4,500	2,100	5.00%
63	77	47	0	0	75	75	3,500	1,500	5.00%
64	84	52	0	0	90	90	3,500	2,500	5.00%
65	92	58	0	0	0	0	5,000	5,000	5.00%
66	101	64	0	0	0	0	3,500	3,500	5.00%
67	111	71	0	0	0	0	3,500	3,500	5.00%
68	124	78	0	0	0	0	3,500	3,500	5.00%
69	139	87	0	0	0	0	3,500	3,500	5.00%
70	156	97	0	0	0	0	3,500	3,500	5.00%
71	176	109	0	0	0	0	10,000	10,000	5.00%

State Employees Retirement Fund

Summary of Plan Provisions

GENERAL

Eligibility:	State employees, non-academic staff of the University of Minnesota and employees of certain Metro level governmental units, unless excluded by law.
Contributions:	
Member:	4.00% of salary.
Employer:	4.00% of salary.
Allowable Service:	Service during which Member contributions were made. May also include certain leaves of absence, military service and periods while temporary Worker's Compensation is paid. Excludes lump sum vacation pay at termination.
Salary:	Includes wages, allowances and fees. Excludes lump-sum payments at separation, employer contributions to deferred compensation and tax-sheltered annuity plans and benevolent vacation and sick leave donation programs.
Average Salary:	Average of the five highest successive years (60 successive months) of salary. Average Salary is based on all Allowable Service if less than five years.

RETIREMENT

Normal Retirement Benefit:

Eligibility:	**First hired before July 1, 1989**: Age 65 and three years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.

First hired after June 30, 1989:
The greater of age 65 or the age eligible for full Social Security retirement benefits (but not higher than age 66) and three years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.

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 benefit (but not higher than age 66) at 3% per year and actuarial reduction for each month the Member is under the Social Security retirement age (but not higher 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:

50% or 100% joint and survivor with bounce back feature without additional reduction. 15 year certain and life thereafter.

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 the greater of $25 times each full year of Allowable Service or $400 per full year of service less any Social Security benefits received or annuity from a Minnesota public employee pension plan. 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.

If a Member became disabled prior to July 1, 1997 but was not eligible to commence their benefit before July 1, 1997, 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 revert 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: Same as for retirement.

Retirement After Disability:

Eligibility: Normal retirement age with continued disability.

Amount: Any optional annuity continues. Otherwise, a normal retirement benefit equal to the disability benefit paid before normal retirement age, or an actuarially equivalent optional annuity.

Benefit Increases: Same as for retirement.

DEATH

Surviving Spouse Optional Benefit:

Eligibility: Member or former Member who dies before retirement or disability benefits commence with three years of Allowable Service. If a former Member dies before age 55 and has less than 30 years of Allowable Service, benefits commence when the former Member would have been age 55. If an active Member dies, benefits may commence immediately, regardless of age.

Amount: Surviving spouse receives the 100% joint and survivor benefit the Member could have elected if terminated. If commencement is prior to age 55, the appropriate early retirement formula described above applies except that one-half the monthly reduction factor is used from age 55 to the commencement age and the Rule of 90 does not apply. In lieu of this benefit, the surviving spouse may elect a refund of contributions with interest or an actuarially equivalent term certain annuity.

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

Benefit Increases: Same as for retirement.

Surviving Dependent Children's Benefit:

Eligibility: If no surviving spouse, all dependent children (biological or adopted) below age 20 who are dependent for more than half of their support on deceased Member.

Amounts: Actuarially equivalent to surviving spouse 100% joint and survivor annuity payable to the later of age 20 or five years. The amount is to be proportionally divided among surviving children.

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

Refund of Contributions:

Eligibility: Active employee dies and survivor benefits are not payable, or a former employee dies before annuity begins, or a former employee who is not entitled to an annuity dies.

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

Eligibility: Retired or disabled annuitant who did not select an optional annuity dies, or the remaining recipient of an option dies.

Amount: The excess of the Member's contributions over all benefits paid.

TERMINATION

Refund of Contributions:

Eligibility: Termination of state service.

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

Deferred Benefit:

Eligibility: Three years of Allowable Service.

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

TABLE 13
(Continued)

SIGNIFICANT CHANGES

No significant changes in plan provisions were recognized for this valuation.

TABLE 14

State 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)
07/01/1991	2,304,311	2,883,603	579,292	79.91%	1,370,964	42.25%
07/01/1992	2,613,472	3,125,299	511,827	83.62%	1,409,108	36.32%
07/01/1993	2,905,578	3,563,492	657,914	81.54%	1,482,005	44.39%
07/01/1994	3,158,068	3,876,584	718,516	81.47%	1,536,978	46.75%
07/01/1995	3,462,098	3,795,926	333,828	91.21%	1,514,177	22.05%
07/01/1996	3,975,832	4,087,273	111,441	97.27%	1,560,369	7.14%
07/01/1997	4,664,519	4,519,542	(144,977)	103.21%	1,568,747	-9.24%
07/01/1998	5,390,526	5,005,165	(385,361)	107.70%	1,557,880	-24.74%
07/01/1999	5,968,692	5,464,207	(504,485)	109.23%	1,649,469	-30.58%
07/01/2000	6,744,165	6,105,703	(638,462)	110.46%	1,733,054	-36.84%

State 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	8.17%	1,370,964	56,895	55,113	57,986	105.21%
1992	7.86%	1,409,108	58,478	52,278	59,244	113.32%
1993	8.27%	1,482,005	59,132	63,430	58,982	92.99%
1994	8.93%	1,536,978	62,555	74,697	60,741	81.32%
1995	9.15%	1,514,177	61,627	76,920	63,161	82.11%
1996	8.05%	1,560,369	63,507	62,103	65,557	105.56%
1997	7.21%	1,568,747	63,848	49,259	66,568	135.14%
1998	7.13%	1,557,880	62,901	48,176	62,315	129.35%
1999	6.48%	1,649,469	66,823	40,063	65,979	164.69%
2000	6.12%	1,733,054	70,378	35,685	69,322	194.26%
2001	7.12% ***					

* Includes contributions from other sources (if applicable).

*** Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Asset Valuation Method is 5.72%

State Employees Retirement Fund

Military Affairs Calculation

Section 352.85 of Chapter 352 of Minnesota Statutes provides that certain military affairs personnel may retire, with an unreduced benefit, at age 60. In addition, they may receive disability benefits upon being found disqualified for retention in active military duty. To fund these special benefits, employees and employer contribute an extra 1.6% of payroll.

To recognize the effect of the unreduced early retirement benefit available at age 60, we have assumed that all military affairs personnel will retire at age 60 or, if over age 60, one year from the valuation date.

The results of our calculations are as follows:

1.	Number of Active Members	3
2.	Projected Annual Earnings	$106,940
3.	Normal Cost	
	a. Dollar Amount	$ 11,720
	b. Percent of Payroll	10.96%

State Employees Retirement Fund

Pilots Calculation

Section 352.86 of chapter 352 of Minnesota Statutes provides that certain transportation department pilots may retire, with an unreduced benefit, at age 62. In addition, they may receive disability benefits upon being found disqualified for retention as pilots. To fund these special benefits, employees and employer contribute an extra 1.6% of payroll.

To recognize the effect of the unreduced early retirement benefit available at age 62, we have assumed that all pilots will retire at age 62 or, if over age 62, one year from the valuation date.

The results of our calculations are as follows:

1.	Number of Active Members	5
2.	Projected Annual Earnings	$365,604
3.	Normal Cost	
	a. Dollar Amount	$ 44,718
	b. Percent of Payroll	12.23%

State Employees Retirement Fund

Fire Marshals Calculation

Section 352.87 of chapter 352 of Minnesota Statutes provides that deputy state fire marshals may retire, with an unreduced benefit with respect to service after July 1, 1999, at age 55. Credited service after July 1, 1999 accrues retirement benefits at a rate of 2.0% per year and disability benefits are based on a minimum of 15 years of service (20 years if duty related). To fund these special benefits, employees contribute an extra 2.78% of payroll and employers contribute an extra 4.20% of payroll.

To recognize the effect of the unreduced early retirement benefit available at age 55, we have assumed that all fire marshals will retire in accordance with the retirement assumptions which apply to the members of the Correctional Employees Retirement Fund.

The results of our calculations are as follows:

1.	Number of Active Members	11
2.	Projected Annual Earnings	$556,215
3.	Normal Cost for Post-7/1/99 Benefits	
	a. Dollar Amount	$ 55,213
	b. Percent of Payroll	9.93%

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State Patrol Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 2000

MILLIMAN & ROBERTSON, INC.

MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

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

December 1, 2000

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

RE: State Patrol Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 2000.

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

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

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

William V. Hogan

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

TKC/WVH/bh

State Patrol Retirement Fund

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State Patrol Retirement Fund

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Report Highlights

(dollars in thousands)

	07/01/1999 Valuation	07/01/2000 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352B % of Payroll	21.00%	21.00%
2. Required Contributions - Chapter 356 % of Payroll	13.21%	15.48%
3. Sufficiency (Deficiency): (A.1. - A.2.)	7.79%	5.52%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$472,687	$528,573
b. Current Benefit Obligations (Table 8)	$395,047	$444,592
c. Funding Ratio: (a/b)	119.65%	118.89%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$472,687	$528,573
b. Actuarial Accrued Liability (Table 9)	$406,215	$458,384
c. Funding Ratio: (a/b)	116.36%	115.31%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$568,938	$634,711
b. Current and Expected Future Benefit Obligations	$514,828	$581,418
c. Funding Ratio: (a/b)	110.51%	109.17%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	825	830
b. Projected Annual Earnings	$47,034	$51,980
c. Average Annual Earnings (Projected $)	$57,010	$62,627
d. Average Age	41.0	40.8
e. Average Service	13.2	12.9
2. Others		
a. Service Retirements (Table 4)	503	531
b. Survivors (Table 5)	146	157
c. Disability Retirements (Table 6)	23	22
d. Deferred Retirements (Table 7)	23	24
e. Terminated Other Non-vested (Table 7)	10	10
f. Total	705	744

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 118.89%. The corresponding ratio for the prior year was 119.65%
- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 2000 the ratio is 115.31%, which is a decrease from the 1999 value of 116.36%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 109.17% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

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

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

> Market Value of Assets at June 30, 2000, *less*
>
> 80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and

06/30/2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less*
60% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on 06/30/99 and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

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

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

Actuarial Balance Sheet (Table 8)

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

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

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

GASB Disclosure

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

Actuarial Cost Method (Table 9)

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

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

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

Source of Actuarial Gains and Losses (Table 10)

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

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 21.00% compared to the Required Contribution Rate of 15.48%.

Changes in Actuarial Assumptions and Methods

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

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

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

Changes in Plan Provisions

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

State Patrol Retirement Fund

Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2000

	Market Value	Cost Value
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	$3,967	$3,967
2. Fixed Income	69,571	70,748
3. Equity	204,703	180,336
4. Real Estate	10,293	8,369
5. Equity in MPRIF	265,053	265,053
6. Other	0	0
Subtotal	$553,587	$528,473
B. ASSETS RECEIVABLE	361	361
C. LIABILITIES	(5,430)	(5,430)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	265,053	265,053
2. Member Reserves	36,373	36,373
3. Other Non-MPRIF Reserves	247,092	221,978
4. Total Assets Available for Benefits	$548,518	$523,404

E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Market Value of Assets Available for Benefits (D4)		$548,518
2. Unrecognized Asset Returns (UAR)		
a. June 30, 2000	$5,030	
b. June 30, 1999	26,535	
3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)		19,945
4. Actuarial Value of Assets (E1 - E3) (Same as "Current Assets")		528,573

State Patrol Retirement Fund

Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

	Non-MPRIF Assets	MPRIF Reserve	Market Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$274,043	$225,179	$499,222
B. ADDITIONS			
1. Member Contributions	$4,044	$0	$4,044
2. Employer Contributions	6,069	0	6,069
3. Contributions From Other Sources	0	0	0
4. MPRIF Income	0	37,642	37,642
5. Net Investment Income			
a. Interest and Dividends	42,825	0	42,825
b. Net Realized Gain (Loss)	0	0	0
c. Net Change in Unrealized Gain (Loss)	(14,685)	0	(14,685)
d. Investment Expenses	(384)	0	(384)
e. **Net Subtotal**	27,756	0	27,756
6. Other	10	0	10
7. Total Additions	$37,879	$37,642	$75,521
C. OPERATING EXPENSES			
1. Service Retirements	$183	$25,606	$25,789
2. Disability Benefits	0	0	0
3. Survivor Benefits	0	0	0
4. Refunds	90	0	90
5. Administrative Expenses	94	0	94
6. Other	252	0	252
7. Total Disbursements	$619	$25,606	$26,225
D. OTHER CHANGES IN RESERVES			
1. Annuities Awarded	(22,612)	22,612	0
2. Mortality Gain/Loss	(5,226)	5,226	0
3. Total Other Changes	(27,838)	27,838	0
E. ASSETS AVAILABLE AT END OF PERIOD	$283,465	$265,053	$548,518

F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN	
1. Average Balance	
(a) Non-MPRIF Assets Available at Beginning of Period	274,043
(b) Non-MPRIF Assets Available at End of Period*	288,691
(c) Average Balance { [F1.a + F1.b - B5.e - B6] / 2 }	267,484
2. Expected Return: .085 * F1.c	22,736
3. Actual Return	27,766
4. Current Year Unrecognized Asset Return: F3 - F2	5,030

* *Before adjustment for MPRIF mortality gain/loss*

STATE PATROL RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 2000

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	10	8	0	0	0	0	0	0	18
25-29	19	58	4	0	0	0	0	0	81
30-34	12	64	32	16	0	0	0	0	124
35-39	5	30	33	61	9	0	0	0	138
40-44	2	15	21	43	60	27	0	0	168
45-49	1	6	7	21	37	60	11	0	143
50-54	1	3	4	5	14	31	51	10	119
55-59	0	2	0	2	1	6	14	12	37
60-64	0	1	0	0	0	0	0	1	2
65+	0	0	0	0	0	0	0	0	0
ALL	50	187	101	148	121	124	76	23	830

AVERAGE ANNUAL EARNINGS

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	25,192	47,583	0	0	0	0	0	0	35,144
25-29	28,507	48,496	52,423	0	0	0	0	0	44,001
30-34	33,911	49,237	59,157	59,317	0	0	0	0	51,615
35-39	41,982	50,118	60,220	62,556	62,649	0	0	0	58,554
40-44	49,214	51,157	57,901	61,878	65,583	68,849	0	0	62,716
45-49	36,433	61,516	62,424	65,121	64,828	65,524	68,320	0	64,977
50-54	80,101	58,176	65,053	63,827	62,413	66,379	67,938	63,876	66,127
55-59	0	53,604	0	72,425	69,059	69,785	68,987	66,093	67,534
60-64	0	65,513	0	0	0	0	0	61,505	63,509
65+	0	0	0	0	0	0	0	0	0
ALL	32,507	49,903	59,436	62,549	64,796	66,668	68,187	64,930	59,036

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

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	1,625	9,331	6,003	9,257	7,840	8,266	5,182	1,493	48,999

STATE PATROL RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 2000

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	12	9	0	0	0	0	0	21
55-59	25	84	3	0	0	0	0	112
60-64	3	29	66	1	0	0	0	99
65-69	0	2	15	63	0	0	0	80
70-74	0	4	4	26	61	0	0	95
75-79	0	0	1	4	39	25	0	69
80-84	0	0	0	1	14	17	8	40
85+	0	0	0	0	0	1	14	15
ALL	40	128	89	95	114	43	22	531

AVERAGE ANNUAL BENEFIT

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	43,857	35,049	0	0	0	0	0	40,082
55-59	37,662	45,938	30,736	0	0	0	0	43,684
60-64	52,163	48,567	44,709	32,756	0	0	0	45,944
65-69	0	50,628	50,988	46,072	0	0	0	47,108
70-74	0	45,539	30,811	49,588	44,951	0	0	45,650
75-79	0	0	38,067	41,694	47,861	34,273	0	42,438
80-84	0	0	0	35,659	39,951	39,312	26,281	36,838
85+	0	0	0	0	0	50,349	30,132	31,480
ALL	40,608	45,829	44,597	46,600	45,333	36,639	28,732	43,808

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	1,624	5,866	3,969	4,427	5,167	1,575	632	23,262

STATE PATROL RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 2000

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	3	12	0	0	0	0	1	16
50-54	2	2	0	0	0	0	0	4
55-59	0	4	1	1	0	0	0	6
60-64	1	2	2	3	0	0	0	8
65-69	2	5	5	0	3	0	2	17
70-74	2	7	5	4	3	4	2	27
75-79	3	2	4	3	2	6	5	25
80-84	1	1	7	3	0	2	6	20
85+	0	3	4	3	0	0	24	34
ALL	14	38	28	17	8	12	40	157

AVERAGE ANNUAL BENEFIT

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	13,014	9,093	0	0	0	0	8,693	9,803
50-54	24,624	35,052	0	0	0	0	0	29,838
55-59	0	19,185	6,399	22,271	0	0	0	17,568
60-64	44,097	20,073	38,724	14,369	0	0	0	25,600
65-69	26,567	30,379	19,128	0	50,392	0	12,007	27,992
70-74	23,511	31,269	21,081	21,211	40,198	33,276	22,201	27,935
75-79	19,244	21,867	17,473	26,893	40,283	31,928	20,923	25,151
80-84	18,924	13,094	16,549	23,888	0	17,339	20,416	18,835
85+	0	18,736	17,107	21,955	0	0	19,295	19,223
ALL	22,086	20,524	19,252	21,672	44,042	29,946	19,183	22,137

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	309	779	539	368	352	359	767	3,475

STATE PATROL RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	1	4	2	0	0	0	0	7
50-54	0	1	0	0	0	0	0	1
55-59	0	0	3	1	1	0	0	5
60-64	0	0	0	2	0	1	0	3
65-69	0	0	0	0	0	1	0	1
70-74	0	0	0	0	0	2	2	4
75-79	0	0	0	0	0	0	1	1
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	1	5	5	3	1	4	3	22

AVERAGE ANNUAL BENEFIT

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	21,680	23,120	31,077	0	0	0	0	25,188
50-54	0	42,434	0	0	0	0	0	42,434
55-59	0	0	40,864	15,201	31,438	0	0	33,846
60-64	0	0	0	43,424	0	30,014	0	38,954
65-69	0	0	0	0	0	37,119	0	37,119
70-74	0	0	0	0	0	37,413	30,540	33,977
75-79	0	0	0	0	0	0	17,082	17,082
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	21,680	26,983	36,949	34,016	31,438	35,490	26,054	31,589

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	21,680	134,915	184,745	102,048	31,438	141,960	78,162	694,958

State Patrol Retirement Fund

Reconciliation Of Members

			Terminated	
		Actives	Deferred Retirement	Other Non-Vested
A.	ON JUNE 30, 1999	825	23	10
B.	ADDITIONS	51	3	4
C.	DELETIONS			
	1. Service Retirement	(37)	(3)	(1)
	2. Disability	0	0	0
	3. Death	0	0	0
	4. Terminated - Deferred	(3)	0	0
	5. Terminated - Refund	(1)	(1)	(1)
	6. Terminated - Other Non-Vested	0	0	0
	7. Returned as Active	0	0	0
	8. Transferred to Other Fund	0	0	0
D.	DATA ADJUSTMENTS	(5)	2	(2)
	Vested	646		
	Non-Vested	184		
E.	TOTAL ON JUNE 30, 2000	830	24	10

		Recipients		
		Retirement Annuitants	Disabled	Survivors
A.	ON JUNE 30, 1999	503	23	146
B.	ADDITIONS	40	1	14
C.	DELETIONS			
	1. Service Retirement	0	0	0
	2. Death	(12)	(2)	(2)
	3. Annuity Expired	0	0	0
	4. Returned as Active	0	0	0
D.	DATA ADJUSTMENTS	0	0	(1)
E.	TOTAL ON JUNE 30, 2000	531	22	157

State Patrol Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 2000

A.	CURRENT ASSETS (TABLE 1, E6)			$528,573
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			($16,896)
	2. Present Value of Future Normal Costs			123,034
	3. Total Expected Future Assets			$106,138
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$634,711
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		$230,367	$230,367
	b. Disability Benefits		6,735	6,735
	c. Surviving Spouse and Child Benefits		29,221	29,221
	2. Deferred Retirements with Future Augmentation		3,316	3,316
	3. Former Members without Vested Rights		29	29
	4. Active Members			
	a. Retirement Annuities	1,917	152,848	154,765
	b. Disability Benefits	12,344	0	12,344
	c. Survivor's Benefits	5,070	0	5,070
	d. Deferred Retirements	106	2,554	2,660
	e. Refund Liability Due to Death or Withdrawal	0	85	85
	5. Total Current Benefit Obligations	$19,437	$425,155	$444,592
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$136,826
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$581,418
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			($83,981)
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			($53,293)

State Patrol Retirement Fund

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

(dollars in thousands)

JULY 1, 2000

	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	$275,377	$101,005	$174,372
b. Disability Benefits	22,315	12,816	9,499
c. Survivor's Benefit	9,079	4,868	4,211
d. Deferred Retirements	4,788	3,590	1,198
e. Refunds Due to Death or Withdrawal	191	755	(564)
f. Total	$311,750	$123,034	$188,716
2. Deferred Retirements With Future Augmentation	3,316		3,316
3. Former Members Without Vested Rights	29		29
4. Annuitants in MPRIF	265,053		265,053
5. Recipients Not in MPRIF	1,270		1,270
6. Total	$581,418	$123,034	$458,384

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$458,384
2. Current Assets (Table 1, E6)	528,573
3. UAAL (B1-B2)	($70,189)
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2030	$965,469
2. Supplemental Contribution Rate (B3/C1)	-7.27%

State Patrol Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	($66,472)
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	1. Normal Cost and Expenses	$10,711
	2. Contribution	(10,113)
	3. Interest on A, B1 and B2	(5,625)
	4. Total (B1+B2+B3)	($5,027)
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	($71,499)
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	1. Salary Increases	$4,050
	2. Investment Return	(16,801)
	3. MPRIF Mortality	5,226
	4. Mortality of Other Benefit Recipients	63
	5. Other Items	5,570
	6. Total	($1,892)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	($73,391)
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	3,202
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	($70,189)

State Patrol Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 352B		
1. Employee Contributions	8.40%	$4,366
2. Employer Contributions	12.60%	6,550
3. Total	21.00%	$10,916
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	18.47%	$9,599
b. Disability Benefits	2.39%	1,243
c. Survivors	0.93%	484
d. Deferred Retirement Benefits	0.63%	330
e. Refunds Due to Death or Withdrawal	0.13%	69
f. Total	22.55%	$11,725
2. Supplemental Contribution Amortization by July 1, 2030 of UAAL	-7.27%	(3,779)
3. Allowance for Expenses	0.20%	104
4. Total	15.48%	$8,050
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	5.52%	$2,866

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is $51,980.

State Patrol 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 using a 6% post-retirement assumption.
Salary Increases:	Reported salary at valuation date increased according to the rate table on pages 18 and 19 to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for new Members.
Mortality:	**Pre-Retirement**: Male - 1983 GAM (Males -1) Female - 1983 GAM (Females) **Post-Retirement**: Male - 1983 GAM (Males +2) Female - 1983 GAM (Females +2) **Post-Disability**: Male - Combined Annuity Mortality Female - Combined Annuity Mortality
Retirement Age:	Age-related table as follows:

Ages:		
	50-53	2%
	54	20
	55	60
	56-61	20
	62-64	50
	65+	100

Separation:	Graded rates starting at .022 at age 20 and decreasing to .003 at age 49.
Disability:	Rates adopted by MSRS as shown in rate table.
Administrative 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:	100% of Members are married. Female is three years younger than male. Each Member is assumed to have two children whose ages are dependent upon the Member's age. Assumed first child is born at Member's age 28 and second child is born at Member's age 31.
Social Security:	N/A
Special Consideration:	Married Members assumed to elect subsidized joint and survivor form of annuity as follows: **Males** - 25% elect 50% J&S option; 25% elect 100% J&S option **Females** - 5% elect 50% J&S option; 5% elect 100% J&S option
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability. The actuarial cost method was changed as of July 1, 1997 to permit negative amortization of supplemental contribution surpluses.
Asset Valuation Method:	Market Value less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during that fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5.0% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

State Patrol Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement		Salary
Age	Male	Female	Male	Female	Male	Female	Male	Female	Increases
20	4	2	220	220	4	4	0	0	7.75%
21	4	2	210	210	4	4	0	0	7.1454
22	4	2	200	200	5	5	0	0	7.1094
23	4	2	190	190	5	5	0	0	7.0725
24	4	2	180	180	6	6	0	0	7.0363
25	4	3	170	170	6	6	0	0	7
26	5	3	160	160	6	6	0	0	7
27	5	3	150	150	7	7	0	0	7
28	5	3	140	140	7	7	0	0	7
29	5	3	130	130	8	8	0	0	7
30	6	3	120	120	8	8	0	0	7
31	6	4	110	110	9	9	0	0	7
32	6	4	100	100	9	9	0	0	7
33	7	4	90	90	10	10	0	0	7
34	7	4	80	80	10	10	0	0	7
35	8	5	70	70	11	11	0	0	7
36	9	5	60	60	12	12	0	0	6.9019
37	9	5	60	60	13	13	0	0	6.8074
38	10	6	60	60	15	15	0	0	6.7125
39	10	6	60	60	16	16	0	0	6.6054
40	11	7	60	60	18	18	0	0	6.5
41	12	7	60	60	20	20	0	0	6.354
42	14	8	60	60	22	22	0	0	6.2087
43	15	8	60	60	24	24	0	0	6.0622
44	17	9	60	60	26	26	0	0	5.9048
45	19	10	60	60	29	29	0	0	5.75
46	22	11	60	60	32	32	0	0	5.6940
47	25	12	60	60	36	36	0	0	5.6375
48	28	14	60	60	41	41	0	0	5.5822
49	31	15	30	30	46	46	0	0	5.5405

State Patrol Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement		Salary
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Increases**
50	35	16	0	0	50	50	200	200	5.5%
51	39	18	0	0	57	57	200	200	5.4384
52	43	19	0	0	64	64	200	200	5.3776
53	48	21	0	0	72	72	200	200	5.3167
54	52	23	0	0	80	80	2,000	2,000	5.2826
55	57	25	0	0	88	88	6,000	6,000	5.25
56	61	28	0	0	98	98	2,000	2,000	5.25
57	66	31	0	0	108	108	2,000	2,000	5.25
58	71	34	0	0	118	118	2,000	2,000	5.25
59	77	38	0	0	129	129	2,000	2,000	5.25
60	84	42	0	0	141	141	2,000	2,000	5.25
61	92	47	0	0	154	154	2,000	2,000	5.25
62	101	52	0	0	167	167	5,000	5,000	5.25
63	111	58	0	0	0	0	5,000	5,000	5.25
64	124	64	0	0	0	0	5,000	5,000	5.25
65	129	71	0	0	0	0	10,000	10,000	5.25
66	156	78	0	0	0	0	0	0	5.25
67	176	87	0	0	0	0	0	0	5.25
68	198	97	0	0	0	0	0	0	5.25
69	222	109	0	0	0	0	0	0	5.25
70	248	124	0	0	0	0	0	0	5.25

State Patrol Retirement Fund

Summary of Plan Provisions

GENERAL

***Eligibility*:**	State trooper, conservation officers and certain crime bureau officers.
***Contributions*:**	
Member:	8.40% of salary.
Employer:	12.60% of salary.
***Allowable Service*:**	Service during which Member contributions were deducted. Includes period receiving temporary Workers' Compensation.
***Salary*:**	Salaries excluding lump-sum payments at separation.
***Average Salary*:**	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

RETIREMENT

***Normal Retirement Benefit*:**	
Eligibility:	Age 55 and three years of Allowable Service.
Amount:	3.0% of Average Salary for each year of Allowable Service.
***Early Retirement Benefit*:**	
Eligibility:	Age 50 and three years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement reduced by 1/10% for each month that the member is under age 55.

Form of Payment: Life annuity.

Actuarially equivalent options are:

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

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

For members retired under laws in effect before June 1, 1973 receive an additional 6% supplement through July 1, 1994. For each of those years, the supplement increases by 6% of the total annuity which includes both MPRIF and supplemental amounts. Thereafter, regular MPRIF increases apply.

Members retired under law in effect before June 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 or $400 per year of service less any Social Security benefits received or annuity from a Minnesota public employee pension plan. 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

Occupational Disability Benefit:

Eligibility: Member who cannot perform his duties because of a disability directly resulting from 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 (pro rata for completed months).

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

If a Member became disabled prior to July 1, 1997 but was not eligible to commence their benefit before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

***Non-Duty Disability Benefit*:**

Eligibility: At least one year of Allowable Service and disability not related to covered employment.

Amount: Normal Retirement Benefit based on Allowable Service (minimum of 15 years) and Average Salary at disability without reduction for commencement before age 55.

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

If a Member became disabled prior to July 1, 1997 but was not eligible to commence their benefit before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

Form of Payment: Same as for retirement.

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

Retirement After Disability:

Eligibility:	Age 65 with continued disability.
Amount:	Optional annuity continues. Otherwise, a normal retirement annuity equal to disability benefit paid, or an actuarially equivalent option.
Form of Payment:	Same as for retirement.
Benefit Increases:	Same as for retirement.

DEATH

Surviving Spouse Benefit:

Eligibility:	Member who is active or receiving a disability benefit.
Amount:	50% of Annual Salary if member was active or occupational disability and either had less than three years of Allowable Service or was under age 55. Payment for life. Surviving spouse receives the 100% joint and survivor benefit commencing on the Member's 55th birthday if Member was active or a disability with three years of Allowable Service. A spouse who had been receiving the 50% benefit shall be entitled to the larger of the two. Payment for life. If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.

***Surviving Dependent Children's Benefit*:**

Eligibility:	Member who is active or receiving a disability benefit. Child must be unmarried, under age 18 (or 23 if full-time student) and dependent upon the Member.
Amount:	10% of Average Salary for each child and $20 per month prorated among all dependent children. Benefit must not be less than 50% nor exceed 70% of Average Salary. If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

***Refund of Contributions*:**

Eligibility:	Member dies before receiving any retirement benefits and survivor benefits are not payable.
Amount:	Member's contributions with 5% interest if death occurred before May 16, 1989 and 6% interest if death occurred on or after May 16, 1989.

TERMINATION

***Refund of Contributions*:**

Eligibility:	Termination of state 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.

Deferred Benefit:

Eligibility:	Three years of Allowable Service.
Amount:	Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71; 5% from 7/1/71 to 1/1/81; and 3% 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%.

SIGNIFICANT CHANGES

No significant changes in plan provisions were recognized for this valuation.

State Patrol 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)
07/01/1991	200,068	224,033	23,965	89.30%	32,365	74.05%
07/01/1992	222,314	233,656	11,342	95.15%	32,882	34.49%
07/01/1993	244,352	258,202	13,850	94.64%	35,765	38.73%
07/01/1994	262,570	275,377	12,807	95.35%	35,341	36.24%
07/01/1995	284,918	283,078	(1,840)	100.65%	37,518	-4.90%
07/01/1996	323,868	303,941	(19,927)	106.56%	41,476	-48.04%
07/01/1997	375,650	332,427	(43,223)	113.00%	41,996	-102.92%
07/01/1998	430,011	371,369	(58,642)	115.79%	43,456	-134.95%
07/01/1999	472,687	406,215	(66,472)	116.36%	45,333	-146.63%
07/01/2000	528,573	458,384	(70,189)	115.31%	48,167	-145.72%

State Patrol 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	22.15%	32,365	2,751	4,418	4,825	109.21%
1992	22.58%	32,882	2,795	4,630	4,893	105.68%
1993	22.27%	35,765	3,040	4,925	5,288	107.37%
1994	21.94%	35,341	3,004	4,750	5,159	108.61%
1995	21.79%	37,518	3,189	4,986	5,583	111.97%
1996	21.34%	41,476	3,484	5,367	5,742	106.99%
1997	21.33%	41,996	3,746	5,212	6,151	118.02%
1998	15.67%	43,456	3,634	3,176	5,475	172.39%
1999	14.14%	45,333	3,850	2,560	5,712	223.13%
2000	15.17% **	48,167	4,044	3,263	6,069	185.99%
2001	15.48% ***					

* Includes contributions from other sources (if applicable).

** Actuarially Required Contribution Rate calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded accrued liability.

***Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 15.15%

Correctional Employees Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 2000

MILLIMAN & ROBERTSON, INC.

MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

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

December 1, 2000

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

RE: Correctional Employees Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 2000.

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

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

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

William V. Hogan

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

TKC/WVH/bh

Correctional Employees Retirement Fund

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Correctional Employees Retirement Fund

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(Continued)

Report Highlights

(dollars in thousands)

	07/01/1999 Valuation	07/01/2000 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352 % of Payroll	13.67%	13.67%
2. Required Contributions - Chapter 356 % of Payroll	13.31%	13.72%
3. Sufficiency (Deficiency): (A.1. - A.2.)	0.36%	-0.05%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$335,408	$386,964
b. Current Benefit Obligations (Table 8)	$277,292	$325,649
c. Funding Ratio: (a/b)	120.96%	118.83%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$335,408	$386,964
b. Actuarial Accrued Liability (Table 9)	$307,408	$359,885
c. Funding Ratio: (a/b)	109.11%	107.52%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$434,393	$492,319
b. Current and Expected Future Benefit Obligations	$428,428	$493,434
c. Funding Ratio: (a/b)	101.39%	99.77%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	2,882	3,098
b. Projected Annual Earnings	$112,202	$127,557
c. Average Annual Earnings (Projected $)	$38,932	$41,174
d. Average Age	40.3	40.3
e. Average Service	8.0	7.8
2. Others		
a. Service Retirements (Table 4)	542	616
b. Survivors (Table 5)	50	56
c. Disability Retirements (Table 6)	60	75
d. Deferred Retirements (Table 7)	337	419
e. Terminated Other Non-vested (Table 7)	135	163
f. Total	1,124	1,329

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 118.83%. The corresponding ratio for the prior year was 120.96%
- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 2000 the ratio is 107.52%, which is a decrease from the 1999 value of 109.11%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 99.77% shows that the current statutory contributions are just slightly inadequate.

Asset Information (Tables 1 and 2)

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

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

Market Value of Assets at June 30, 2000, *less*

> 80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and 06/30/2000 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less*
>
> 60% of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on 06/30/99 and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

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

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

Actuarial Balance Sheet (Table 8)

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

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

- <u>For Active Members</u> – 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.
- <u>For Non-Active Members</u> – The discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

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

Actuarial Cost Method (Table 9)

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

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

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

Source of Actuarial Gains and Losses (Table 10)

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

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a small contribution deficiency since the Statutory Contribution Rate is 13.67% compared to the Required Contribution Rate of 13.72%.

Changes in Actuarial Assumptions and Methods

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

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

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

Changes in Plan Provisions

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

Correctional Employees Retirement Fund

Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2000

		Market Value	Cost Value
A.	ASSETS IN TRUST		
	1. Cash, Equivalents, Short-term Securities	$9,913	$9,913
	2. Fixed Income	67,524	68,594
	3. Equity	198,679	177,484
	4. Real Estate	9,990	8,219
	5. Equity in MPRIF	124,401	124,401
	6. Other	0	0
	Subtotal	$410,507	$388,611
B.	ASSETS RECEIVABLE	497	497
C.	LIABILITIES	(571)	(571)
D.	NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
	1. MPRIF Reserves	124,401	124,401
	2. Member Reserves	43,787	43,787
	3. Other Non-MPRIF Reserves	242,245	220,349
	4. Total Assets Available for Benefits	$410,433	$388,537

E.	DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
	1. Market Value of Assets Available for Benefits (D4)		$410,433
	2. Unrecognized Asset Returns (UAR)		
	a. June 30, 2000	$12,132	
	b. June 30, 1999	22,939	
	3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)		23,469
	4. Actuarial Value of Assets (E1 - E3) (Same as "Current Assets")		386,964

Correctional Employees Retirement Fund

Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

		Non-MPRIF Assets	MPRIF Reserve	Market Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	$259,023	$99,324	$358,347
B.	ADDITIONS			
	1. Member Contributions	$6,526	$0	$6,526
	2. Employer Contributions	8,984	0	8,984
	3. Contributions From Other Sources	0	0	0
	4. MPRIF Income	0	16,459	16,459
	5. Net Investment Income			
	a. Interest and Dividends	39,798	0	39,798
	b. Net Realized Gain (Loss)	0	0	0
	c. Net Change in Unrealized Gain (Loss)	(12,515)	0	(12,515)
	d. Investment Expenses	(369)	0	(369)
	e. **Net Subtotal**	26,914	0	26,914
	6. Other	6,953	0	6,953
	7. Total Additions	$49,377	$16,459	$65,836
C.	OPERATING EXPENSES			
	1. Service Retirements	$0	$12,414	$12,414
	2. Disability Benefits	0	0	0
	3. Survivor Benefits	0	0	0
	4. Refunds	753	0	753
	5. Administrative Expenses	243	0	243
	6. Other	340	0	340
	7. Total Disbursements	$1,336	$12,414	$13,750
D.	OTHER CHANGES IN RESERVES			
	1. Annuities Awarded	(20,808)	20,808	0
	2. Mortality Gain/Loss	(224)	224	0
	3. Total Other Changes	(21,032)	21,032	0
E.	ASSETS AVAILABLE AT END OF PERIOD	$286,032	$124,401	$410,433

F.	DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN	
	1. Average Balance	
	(a) Non-MPRIF Assets Available at Beginning of Period	259,023
	(b) Non-MPRIF Assets Available at End of Period*	286,256
	(c) Average Balance { [F1.a + F1.b - B5.e - B6] / 2 }	255,706
	2. Expected Return: .085 * F1.c	21,735
	3. Actual Return	33,867
	4. Current Year Unrecognized Asset Return: F3 - F2	12,132

** Before adjustment for MPRIF mortality gain/loss*

CORRECTIONAL EMPLOYEES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 2000

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	48	28	0	0	0	0	0	0	76
25-29	125	189	52	0	0	0	0	0	366
30-34	74	186	217	20	0	0	0	0	497
35-39	71	106	186	121	21	0	0	0	505
40-44	67	111	174	85	106	26	0	0	569
45-49	54	89	140	58	76	86	15	0	518
50-54	36	68	95	50	58	75	40	3	425
55-59	11	39	24	8	7	8	7	2	106
60-64	2	6	11	4	4	3	2	0	32
65+	0	1	1	0	1	0	1	0	4
ALL	488	823	900	346	273	198	65	5	3,098

AVERAGE ANNUAL EARNINGS

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	20,605	27,919	0	0	0	0	0	0	23,300
25-29	23,229	31,324	38,071	0	0	0	0	0	29,518
30-34	23,073	32,481	38,935	45,188	0	0	0	0	34,410
35-39	26,975	34,150	40,478	44,660	45,637	0	0	0	38,468
40-44	26,911	35,638	40,792	43,639	46,425	46,957	0	0	39,909
45-49	26,239	39,458	41,223	44,840	46,237	48,772	55,475	0	42,164
50-54	84,425	39,847	42,388	46,476	45,729	48,227	53,085	60,604	48,645
55-59	32,885	41,110	41,314	46,502	47,565	51,231	56,365	51,551	43,104
60-64	34,911	38,302	43,957	53,673	41,639	63,503	56,004	0	45,841
65+	0	37,512	36,861	0	36,379	0	41,833	0	38,146
ALL	29,111	34,521	40,406	44,879	46,087	48,650	53,907	56,983	38,900

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

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	14,206	28,410	36,365	15,528	12,581	9,632	3,503	284	120,512

CORRECTIONAL EMPLOYEES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 2000

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	24	10	0	0	0	0	0	34
55-59	45	108	2	0	0	0	0	155
60-64	14	39	65	4	0	0	0	122
65-69	4	25	11	59	0	0	0	99
70-74	1	0	15	17	46	0	0	79
75-79	0	0	0	4	17	36	0	57
80-84	0	0	0	0	2	23	14	39
85+	0	0	0	0	0	3	28	31
ALL	88	182	93	84	65	62	42	616

AVERAGE ANNUAL BENEFIT

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	12,907	15,287	0	0	0	0	0	13,607
55-59	12,618	15,974	12,234	0	0	0	0	14,951
60-64	13,036	15,644	17,616	16,891	0	0	0	16,436
65-69	9,418	12,558	10,468	17,680	0	0	0	15,251
70-74	6,092	0	16,577	16,381	20,980	0	0	18,966
75-79	0	0	0	15,792	19,629	17,289	0	17,882
80-84	0	0	0	0	8,459	13,655	13,408	13,300
85+	0	0	0	0	0	9,542	9,325	9,346
ALL	12,544	15,396	16,487	17,290	20,241	15,566	10,686	15,619

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	1,103	2,802	1,533	1,452	1,315	965	448	9,621

CORRECTIONAL EMPLOYEES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 2000

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	2	2	3	1	0	0	0	8
50-54	1	5	1	0	0	0	0	7
55-59	1	4	4	1	1	0	0	11
60-64	2	5	4	0	1	0	0	12
65-69	0	3	0	1	1	0	0	5
70-74	1	0	0	0	1	0	0	2
75-79	0	2	2	1	0	1	0	6
80-84	0	0	1	0	0	0	3	4
85+	0	0	0	1	0	0	0	1
ALL	7	21	15	5	4	1	3	56

AVERAGE ANNUAL BENEFIT

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	5,099	7,122	3,163	6,900	0	0	0	5,104
50-54	4,118	11,346	1,319	0	0	0	0	8,881
55-59	5,102	6,578	13,694	4,503	10,878	0	0	9,234
60-64	19,536	12,643	9,207	0	30,968	0	0	14,174
65-69	0	3,384	0	9,143	12,194	0	0	6,298
70-74	1,677	0	0	0	4,545	0	0	3,111
75-79	0	12,458	10,250	5,995	0	8,932	0	10,057
80-84	0	0	2,565	0	0	0	7,071	5,945
85+	0	0	0	587	0	0	0	587
ALL	8,595	9,313	8,365	5,426	14,646	8,932	7,071	8,877

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	60,165	195,573	125,475	27,130	58,584	8,932	21,213	497,112

CORRECTIONAL EMPLOYEES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	12	16	9	0	0	0	0	37
50-54	4	13	6	3	0	0	0	26
55-59	2	2	1	1	0	0	0	6
60-64	0	0	2	0	0	0	0	2
65-69	0	0	0	0	2	0	0	2
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	1	1	2
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	18	31	18	4	2	1	1	75

AVERAGE ANNUAL BENEFIT

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	13,037	17,424	13,150	0	0	0	0	14,962
50-54	10,655	13,138	13,883	7,775	0	0	0	12,309
55-59	21,933	14,689	13,874	11,420	0	0	0	16,423
60-64	0	0	12,897	0	0	0	0	12,897
65-69	0	0	0	0	15,754	0	0	15,754
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	4,247	6,163	5,205
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	13,496	15,450	13,406	8,686	15,754	4,247	6,163	13,865

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	242,928	478,950	241,308	34,744	31,508	4,247	6,163	1,039,875

Correctional Employees Retirement Fund

Reconciliation Of Members

		Actives	Terminated: Deferred Retirement	Terminated: Other Non-Vested
A.	ON JUNE 30, 1999	2,882	337	135
B.	ADDITIONS	525	101	70
C.	DELETIONS			
	1. Service Retirement	(77)	(8)	0
	2. Disability	(13)	(3)	0
	3. Death	(1)	(2)	0
	4. Terminated - Deferred	(92)	0	(5)
	5. Terminated - Refund	(78)	(4)	(11)
	6. Terminated - Other Non-Vested	(47)	0	0
	7. Returned as Active	0	(6)	(5)
	8. Transferred to Other Fund	(3)	0	(20)
D.	DATA ADJUSTMENTS	2	4	(1)
	Vested	2,134		
	Non-Vested	964		
E.	TOTAL ON JUNE 30, 2000	3,098	419	163

		Recipients: Retirement Annuitants	Recipients: Disabled	Recipients: Survivors
A.	ON JUNE 30, 1999	542	60	50
B.	ADDITIONS	92	17	9
C.	DELETIONS			
	1. Service Retirement	0	0	0
	2. Death	(15)	(2)	(1)
	3. Annuity Expired	(6)	0	0
	4. Returned as Active	0	0	0
D.	DATA ADJUSTMENTS	3	0	(2)
E.	TOTAL ON JUNE 30, 2000	616	75	56

Correctional Employees Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 2000

		Non-Vested	Vested	Total
A.	CURRENT ASSETS (TABLE 1, E6)			$386,964
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			($28,194)
	2. Present Value of Future Normal Costs			133,549
	3. Total Expected Future Assets			$105,355
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$492,319
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		$102,404	$102,404
	b. Disability Benefits		15,947	15,947
	c. Surviving Spouse and Child Benefits		6,050	6,050
	2. Deferred Retirements with Future Augmentation		14,914	14,914
	3. Former Members without Vested Rights		190	190
	4. Active Members			
	a. Retirement Annuities	3,407	149,208	152,615
	b. Disability Benefits	11,748	0	11,748
	c. Survivor's Benefits	3,565	0	3,565
	d. Deferred Retirements	504	13,404	13,908
	e. Refund Liability Due to Death or Withdrawal	0	4,308	4,308
	5. Total Current Benefit Obligations	$19,224	$306,425	$325,649
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$167,785
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$493,434
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			($61,315)
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			$1,115

Correctional Employees Retirement Fund

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

(dollars in thousands)

JULY 1, 2000

	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	$292,788	$93,736	$199,052
b. Disability Benefits	21,894	11,115	10,779
c. Survivor's Benefit	6,478	2,667	3,811
d. Deferred Retirements	24,797	12,769	12,028
e. Refunds Due to Death or Withdrawal	7,972	13,262	(5,290)
f. Total	$353,929	$133,549	$220,380
2. Deferred Retirements With Future Augmentation	14,914		14,914
3. Former Members Without Vested Rights	190		190
4. Annuitants in MPRIF	124,401		124,401
5. Recipients Not in MPRIF	0		0
6. Total	$493,434	$133,549	$359,885
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			$359,885
2. Current Assets (Table 1, E6)			386,964
3. UAAL (B1-B2)			($27,079)
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2030			$2,369,207
2. Supplemental Contribution Rate (B3/C1)			-1.14%

Correctional Employees Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	($28,000)
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	1. Normal Cost and Expenses	$16,832
	2. Contribution	(15,510)
	3. Interest on A, B1 and B2	(2,324)
	4. Total (B1+B2+B3)	($1,002)
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	($29,002)
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	1. Salary Increases	$4,886
	2. Investment Return	(14,883)
	3. MPRIF Mortality	225
	4. Mortality of Other Benefit Recipients	0
	5. Other Items	2,823
	6. Total	($6,949)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	($35,951)
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	8,872
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	($27,079)

Correctional Employees Retirement Fund

Determination Of Contribution Sufficiency
(dollars in thousands)

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 352		
1. Employee Contributions	5.69%	$7,258
2. Employer Contributions	7.98%	10,179
3. Total	13.67%	$17,437
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	10.55%	$13,452
b. Disability Benefits	1.23%	1,568
c. Survivors	0.27%	342
d. Deferred Retirement Benefits	1.29%	1,648
e. Refunds Due to Death or Withdrawal	1.30%	1,660
f. Total	14.64%	$18,670
2. Supplemental Contribution Amortization by July 1, 2030 of UAAL	-1.14%	(1,454)
3. Allowance for Expenses	0.22%	281
4. Total	13.72%	$17,497
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-0.05%	($60)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is $127,557.

Correctional 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 using a 6% post-retirement assumption.
Salary Increases:	Reported salary at valuation date increased according to the rate table on pages 18 and 19 to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for new Members.
Mortality:	**Pre-Retirement**: Male - 1983 GAM (Males -1) Female - 1983 GAM (Females) **Post-Retirement**: Male - 1983 GAM (Males +2) Female - 1983 GAM (Females +2) **Post-Disability**: Male - Combined Annuity Mortality Table Female - Combined Annuity Mortality Table
Retirement Age:	Age-related table as follows:

Ages:		
	50-53	2%
	54	20
	55	60
	56-61	20
	62-64	50
	65+	100

Separation:	Graded rates based on actual experience developed by the June 30, 1997 experience analysis. Rates are shown in rate table.
Disability:	Rates as shown in rate table.
Administrative Expenses:	Prior year administration expenses expressed as percentage of prior year payroll.

***Return of Contributions*:**	All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.
***Family Composition*:**	85% of Members are assumed to be married. Female is three years younger than male.
***Social Security*:**	Based on the present law and 6.0% retroactive salary scale. Only earnings history while in state service is used. Future Social Security benefits replace the same proportion of salary as at present.
***Special Consideration*:**	Married Members assumed to elect subsidized joint and survivor form of annuity as follows: **Males -** 25% elect 50% J&S option 25% elect 100% J&S option **Females -** 5% elect 50% J&S option 5% elect 100% J&S option
***Actuarial Cost Method*:**	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability. The actuarial cost method was changed as of July 1, 1997 to permit negative amortization of supplemental contribution surpluses.
Asset Valuation Method:	Market Value less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during that fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.
***Payment on the Unfunded Actuarial Accrued Liability*:**	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

Correctional Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement		Salary
Age	Male	Female	Male	Female	Male	Female	Male	Female	Increases
20	4	2	2,400	1,600	4	4	0	0	7.75%
21	4	2	2,200	1,560	4	4	0	0	7.1454
22	4	2	2,000	1,520	5	5	0	0	7.1094
23	4	2	1,810	1,480	5	5	0	0	7.0725
24	4	2	1,630	1,450	6	6	0	0	7.0363
25	4	3	1,470	1,420	6	6	0	0	7
26	5	3	1,330	1,400	6	6	0	0	7
27	5	3	1,210	1,380	7	7	0	0	7
28	5	3	1,100	1,370	7	7	0	0	7
29	5	3	1,000	1,360	8	8	0	0	7
30	6	3	910	1,350	8	8	0	0	7
31	6	4	830	1,340	9	9	0	0	7
32	6	4	760	1,330	9	9	0	0	7
33	7	4	700	1,320	10	10	0	0	7
34	7	4	650	1,310	10	10	0	0	7
35	8	5	600	1,290	11	11	0	0	7
36	9	5	560	1,260	12	12	0	0	6.9019
37	9	5	520	1,220	13	13	0	0	6.8074
38	10	6	490	1,170	15	15	0	0	6.7125
39	10	6	460	1,110	16	16	0	0	6.6054
40	11	7	440	1,040	18	18	0	0	6.5
41	12	7	420	960	20	20	0	0	6.354
42	14	8	400	870	22	22	0	0	6.2087
43	15	8	380	780	24	24	0	0	6.0622
44	17	9	360	700	26	26	0	0	5.9048
45	19	10	340	640	29	29	0	0	5.75
46	22	11	320	590	32	32	0	0	5.6940
47	25	12	300	560	36	36	0	0	5.6375
48	28	14	280	530	41	41	0	0	5.5822
49	31	15	260	500	46	46	0	0	5.5405

Correctional Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement		Salary
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Increases**
50	35	16	240	470	50	50	200	200	5.5%
51	39	18	220	440	57	57	200	200	5.4384
52	43	19	200	410	64	64	200	200	5.3776
53	48	21	180	390	72	72	200	200	5.3167
54	52	23	160	360	80	80	2,000	2,000	5.2826
55	57	25	140	330	88	88	6,000	6,000	5.25
56	61	28	120	290	98	98	2,000	2,000	5.25
57	66	31	100	230	108	108	2,000	2,000	5.25
58	71	34	70	170	118	118	2,000	2,000	5.25
59	77	38	40	90	129	129	2,000	2,000	5.25
60	84	42	0	0	141	141	2,000	2,000	5.25
61	92	47	0	0	154	154	2,000	2,000	5.25
62	101	52	0	0	167	167	5,000	5,000	5.25
63	111	58	0	0	0	0	5,000	5,000	5.25
64	124	64	0	0	0	0	5,000	5,000	5.25
65	129	71	0	0	0	0	10,000	10,000	5.25
66	156	78	0	0	0	0	0	0	5.25
67	176	87	0	0	0	0	0	0	5.25
68	198	97	0	0	0	0	0	0	5.25
69	222	109	0	0	0	0	0	0	5.25
70	248	124	0	0	0	0	0	0	5.25

Correctional Employees Retirement Fund

Summary of Plan Provisions

GENERAL

Eligibility:	State employees in covered correctional service.
Contributions:	
Member:	5.69% of salary.
Employer:	7.98% of salary.
Allowable Service:	Service during which Member contributions were made. May also include certain leaves of absence, military service and periods while temporary Worker's Compensation is paid.
Salary:	Includes wages, allowances and fees. Excludes lump-sum payments at separation and reduced salary while receiving Worker's Compensation benefits.
Average Salary:	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

RETIREMENT

Normal Retirement Benefit:	
Eligibility:	Age 55 and three years of Allowable Service under the Correctional and General Plans. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.
Amount:	2.4% of Average Salary for each year of Allowable Service, pro rata for completed months.

***Early Retirement Benefit*:**

Eligibility:	Age 50 and three years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date reduced by 2/10% per month for each month that the Member is under age 55.
Form of Payment:	Life annuity. Actuarially equivalent options are: 50% or 100% joint and survivor with bounce back feature without additional reduction. 15 year certain and life benefits. Level Social Security option either to age 62 or Social Security Retirement Age.
Benefit Increases:	Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will receive a partial increase.

DISABILITY

***Occupational Disability*:**

Eligibility:	Member who cannot perform his duties as a direct result of a disability related to an act of duty.
Amount:	50% of Average Salary plus 2.4% of Average Salary for each year in excess of 20 years and 10 months of Allowable Service (pro rata for completed months). Maximum of 75% of Average Salary.

Payment begins at disability and stops at age 62 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.

***Non-Occupational Disability*:**

Eligibility:	At least one year of Correctional service and disability not related to covered employment.
Amount:	Normal Retirement Benefit based on Allowable Service (minimum of 15 years) and Average Salary at disability. Payment begins at disability and ends at age 62 or earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability.
Form of Payment:	Same as for retirement.
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.

***Retirement Benefits*:**

Eligibility:	Age 62 with continued disability.
Amount:	Benefit computed as a normal retirement benefit under General Plan based on same Allowable Service and without reduction for age.
Form of Payment:	Same as for retirement.
Benefit Increases:	Same as for retirement.

DEATH

Surviving Spouse Benefit:

Eligibility:	Member at any age or former Member age 50 or older who dies before retirement or disability benefits commence with three years of Allowable Service. If a former Member dies before age 55 and has less than 30 years of Allowable Service, benefits commence when the former Member would have been age 55. If an active member dies, benefits may commence immediately, regardless of age.
Amount:	Surviving spouse receives the 100% joint and survivor benefit using the Normal Retirement formula above. If commencement is prior to age 55, the appropriate early retirement formula described above applies except that one-half the monthly reduction factor is used from age 55 to the commencement age and the Rule of 90 does not apply. In lieu of this benefit, the surviving spouse may elect a refund of contributions with interest or an actuarially equivalent term certain annuity (lump sum payable to estate at death).
Benefit Increases:	Adjusted by MSRS to provide same income as MPRIF.

Surviving Dependent Children's Benefit:

Eligibility:	If no surviving spouse, all dependent children (biological or adopted) below age 20 who are dependent for more than half of their support on deceased Member.
Amount:	Actuarially equivalent to surviving spouse 100% joint and survivor annuity payable to the later of age 20 or five years. The amount is to be proportionally divided among surviving children.

***Refund of Contributions With Interest*:**

Eligibility:	Active employee dies and survivor benefits are not payable or a former employee dies before annuity begins. If accumulated contributions with interest exceed total payments to the surviving spouse and children, then the remainder is paid out.
Amount:	The Member's contributions with 5% interest if death occurred before May 16, 1989 and 6% interest if death occurred on or after May 16, 1989.

TERMINATION

***Refund of Contributions*:**

Eligibility:	Termination of state 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 Correctional and General Service.
Amount:	Benefit computed under law in effect at termination.

SIGNIFICANT CHANGES

No significant changes in plan provisions were recognized for this valuation.

Correctional 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)
07/01/1991	105,925	112,171	6,246	94.43%	43,429	14.38%
07/01/1992	121,051	123,515	2,464	98.01%	47,592	5.18%
07/01/1993	135,939	134,280	(1,659)	101.24%	52,122	-3.18%
07/01/1994	148,163	152,702	4,539	97.03%	54,673	8.30%
07/01/1995	165,427	153,491	(11,936)	107.78%	66,939	-17.83%
07/01/1996	193,833	170,959	(22,874)	113.38%	72,959	-31.35%
07/01/1997	241,916	212,638	(29,278)	113.77%	112,408	-26.05%
07/01/1998	295,291	261,869	(33,422)	112.76%	105,796	-31.59%
07/01/1999	335,408	307,408	(28,000)	109.11%	106,131	-26.38%
07/01/2000	386,964	359,885	(27,079)	107.52%	112,587	-24.05%

Correctional 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	10.73%	43,429	2,128	2,532	2,731	107.86%
1992	10.82%	47,592	2,332	2,817	2,955	104.90%
1993	11.41%	52,122	2,554	3,393	3,217	94.81%
1994	10.97%	54,673	2,679	3,319	3,355	101.08%
1995	11.30%	66,939	3,280	4,284	4,195	97.92%
1996	11.11%	72,959	3,575	4,531	4,559	100.62%
1997	11.21%	112,408	5,508	7,093	9,129	128.70%
1998	12.49%	105,796	5,954	7,260	8,146	112.20%
1999	12.99%	106,131	6,378	7,408	8,172	110.31%
2000	13.66% **	112,587	6,526	8,853	8,984	101.48%
2001	13.72% ***					

* Includes contributions from other sources (if applicable).

** Actuarially Required Contribution Rate calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded accrued liability.

***Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 13.34%

Legislators Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 2000

MILLIMAN & ROBERTSON, INC.

MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

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

December 1, 2000

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

RE: Legislators Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 2000.

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

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

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

William V. Hogan

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

TKC/WVH/bh

Legislators Retirement Fund

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Report Highlights
(dollars in thousands)

	07/01/1999 Valuation	07/01/2000 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 3A % of Payroll	9.00%	9.00%
2. Required Contributions - Chapter 356 % of Payroll	52.72%	55.88%
3. Sufficiency (Deficiency): (A.1. - A.2.)	-43.72%	-46.88%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$33,474	$37,265
b. Current Benefit Obligations (Table 8)	$63,946	$66,941
c. Funding Ratio: (a/b)	52.35%	55.67%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$33,474	$37,265
b. Actuarial Accrued Liability (Table 9)	$66,418	$69,364
c. Funding Ratio: (a/b)	50.40%	53.72%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$36,789	$43,343
b. Current and Expected Future Benefit Obligations	$73,508	$75,442
c. Funding Ratio: (a/b)	50.05%	57.45%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	180	173
b. Projected Annual Earnings	$6,571	$6,043
c. Average Annual Earnings (Projected $)	$36,506	$34,932
d. Average Age	52.6	53.8
e. Average Service	10.7	11.8
2. Others		
a. Service Retirements (Table 4)	196	210
b. Survivors (Table 5)	71	70
c. Disability Retirements (Table 6)	0	0
d. Deferred Retirements (Table 7)	107	90
e. Terminated Other Non-vested (Table 7)	4	3
f. Total	378	373

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 55.67%. The corresponding ratio for the prior year was 52.35%
- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 2000 the ratio is 53.72%, which is an increase from the 1999 value of 50.40%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 50.05% shows that the current statutory contributions are inadequate.

Asset Information (Tables 1 and 2)

While Minnesota Statutes have changed the specified method for determination of "Current Assets," the new smoothing methodology is not applicable to this plan.

This plan has only two reported assets – MPRIF reserves and receivable non-segregated member deposits. Each of these assets is valued on an "as reported" basis.

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

Actuarial Balance Sheet (Table 8)

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

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

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

GASB Disclosure

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

Actuarial Cost Method (Table 9)

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

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

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

The payments will increase 5.00% 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.

Source of Actuarial Gains and Losses (Table 10)

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

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a contribution deficiency since the Statutory Contribution Rate is 9.00% compared to the Required Contribution Rate of 55.88%.

Changes in Actuarial Assumptions

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

Changes in Plan Provisions

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

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Legislators Retirement Fund

Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2000

	Market Value	Cost Value
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	$-0	$0
2. Fixed Income	0	0
3. Equity	0	0
4. Real Estate	0	0
5. Equity in MPRIF	30,934	30,934
6. Other	7,076	7,076
Subtotal	$38,010	$38,010
B. ASSETS RECEIVABLE	0	0
C. LIABILITIES	(745)	(745)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	30,934	30,934
2. Member Reserves	30,225	30,225
3. Other Non-MPRIF Reserves	(23,894)	(23,894)
4. Total Assets Available for Benefits	$37,265	$37,265

E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Market Value of Assets Available for Benefits (D4)		$37,265
2. Unrecognized Asset Returns (UAR)		
a. June 30, 2000	$0	
b. June 30, 1999	0	
3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)		0
4. Actuarial Value of Assets (E1 - E3) (Same as "Current Assets")		37,265

Legislators Retirement Fund

Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

		Non-MPRIF Assets	MPRIF Reserve	Market Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	$6,737	$26,737	$33,474
B.	ADDITIONS			
	1. Member Contributions	$523	$0	$523
	2. Employer Contributions	3,192	0	3,192
	3. Contributions From Other Sources	0	0	0
	4. MPRIF Income	0	4,529	4,529
	5. Net Investment Income			
	a. Interest and Dividends	0	0	0
	b. Net Realized Gain (Loss)	0	0	0
	c. Net Change in Unrealized Gain (Loss)	0	0	0
	d. Investment Expenses	0	0	0
	e. **Net Subtotal**	0	0	0
	6. Other	0	0	0
	7. Total Additions	$3,715	$4,529	$8,244
C.	OPERATING EXPENSES			
	1. Service Retirements	$553	$3,660	$4,213
	2. Disability Benefits	0	0	0
	3. Survivor Benefits	0	0	0
	4. Refunds	108	0	108
	5. Administrative Expenses	34	0	34
	6. Other	98	0	98
	7. Total Disbursements	$793	$3,660	$4,453
D.	OTHER CHANGES IN RESERVES			
	1. Annuities Awarded	(2,619)	2,619	0
	2. Mortality Gain/Loss	(709)	709	0
	3. Total Other Changes	(3,328)	3,328	0
E.	ASSETS AVAILABLE AT END OF PERIOD	$6,331	$30,934	$37,265

F.	DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN	
	1. Average Balance	
	(a) Non-MPRIF Assets Available at Beginning of Period Less Non-Segregated Member Deposits	0
	(b) Non-MPRIF Assets Available at End of Period* Less Non-Segregated Member Deposits	0
	(c) Average Balance { [F1.a + F1.b - B5.e - B6] / 2 }	0
	2. Expected Return: .085 * F1.c	0
	3. Actual Return	0
	4. Current Year Unrecognized Asset Return: F3 - F2	0

* *Before adjustment for MPRIF mortality gain/loss*

LEGISLATORS RETIREMENT PLAN

ACTIVE MEMBERS AS OF JUNE 30, 2000

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	1	0	0	0	0	0	0	1
35-39	0	2	8	0	0	0	0	0	10
40-44	0	4	10	5	0	0	0	0	19
45-49	0	4	12	5	3	1	0	0	25
50-54	0	5	17	8	2	1	4	0	37
55-59	0	4	11	8	7	3	4	0	37
60-64	0	4	8	2	2	3	5	0	24
65+	0	2	6	2	4	3	3	0	20
ALL	0	26	72	30	18	11	16	0	173

AVERAGE ANNUAL EARNINGS

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	37,189	0	0	0	0	0	0	37,189
35-39	0	37,133	36,335	0	0	0	0	0	36,495
40-44	0	37,077	35,321	27,632	0	0	0	0	33,667
45-49	0	29,785	36,171	37,177	37,151	36,973	0	0	35,500
50-54	0	29,012	36,332	34,874	36,687	36,909	37,147	0	35,151
55-59	0	37,189	30,639	35,099	37,069	37,189	37,372	0	34,787
60-64	0	26,462	37,150	30,187	36,741	33,774	37,177	0	34,338
65+	0	36,769	37,114	36,937	37,049	36,834	37,077	0	37,001
ALL	0	32,773	35,451	33,936	36,999	36,116	37,200	0	35,151

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

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	0	852	2,552	1,018	665	397	595	0	6,081

LEGISTATORS RETIREMENT PLAN

SERVICE RETIREMENTS AS OF JUNE 30, 2000

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	6	0	0	0	0	0	0	6
60-64	13	15	1	0	0	0	0	29
65-69	0	25	29	0	0	0	0	54
70-74	0	11	24	18	0	0	0	53
75-79	0	0	3	7	29	0	0	39
80-84	0	0	2	1	3	12	0	18
85+	0	0	0	0	0	3	8	11
ALL	19	51	59	26	32	15	8	210

AVERAGE ANNUAL BENEFIT

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	11,223	0	0	0	0	0	0	11,223
60-64	11,728	15,047	20,341	0	0	0	0	13,742
65-69	0	16,253	19,738	0	0	0	0	18,125
70-74	0	18,678	23,561	11,856	0	0	0	18,572
75-79	0	0	15,641	12,090	18,840	0	0	17,382
80-84	0	0	20,260	31,782	21,490	26,715	0	25,408
85+	0	0	0	0	0	25,581	13,817	17,025
ALL	11,569	16,421	21,113	12,685	19,088	26,488	13,817	17,864

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	219	837	1,245	329	610	397	110	3,751

LEGISTATORS RETIREMENT PLAN

SURVIVORS AS OF JUNE 30, 2000

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	4	0	0	0	0	0	4
50-54	0	1	0	0	0	0	0	1
55-59	0	1	1	1	1	1	0	5
60-64	1	0	2	1	0	0	0	4
65-69	0	1	2	0	0	0	1	4
70-74	1	2	7	1	1	0	1	13
75-79	0	1	2	2	0	1	1	7
80-84	1	3	4	5	0	1	2	16
85+	0	2	4	4	0	3	3	16
ALL	3	15	22	14	2	6	8	70

AVERAGE ANNUAL BENEFIT

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	1,195	0	0	0	0	0	1,195
50-54	0	4,784	0	0	0	0	0	4,784
55-59	0	12,441	7,854	39,244	19,617	12,153	0	18,262
60-64	5,241	0	13,560	9,306	0	0	0	10,417
65-69	0	1,580	6,341	0	0	0	9,864	6,032
70-74	2,731	21,122	7,716	2,815	5,162	0	9,832	8,984
75-79	0	35,161	7,737	6,610	0	2,973	17,654	12,069
80-84	1,416	14,259	9,118	10,872	0	4,781	5,612	9,439
85+	0	10,372	8,883	8,349	0	12,241	7,457	9,298
ALL	3,129	10,967	8,598	10,882	12,390	9,438	8,868	9,539

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	9,387	164,505	189,156	152,348	24,780	56,628	70,944	667,730

LEGISTATORS RETIREMENT PLAN

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

Age	Years Disabled ≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0	0	0	0	0

AVERAGE ANNUAL BENEFIT

Age	Years Disabled ≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0	0	0	0	0

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	0	0	0	0	0	0	0	0

Legislators Retirement Fund

Reconciliation Of Members

		Actives	Terminated: Deferred Retirement	Terminated: Other Non-Vested
A.	ON JUNE 30, 1999	180	107	4
B.	ADDITIONS	0	2	0
C.	DELETIONS			
	1. Service Retirement	(1)	(18)	0
	2. Disability	0	0	0
	3. Death	(1)	0	0
	4. Terminated - Deferred	0	0	(1)
	5. Terminated - Refund	(1)	0	0
	6. Terminated - Other Non-Vested	0	0	0
	7. Returned as Active	0	0	0
	8. Transferred to Other Fund	(1)	0	0
D.	DATA ADJUSTMENTS	(3)	(1)	0
	Vested	127		
	Non-Vested	46		
E.	TOTAL ON JUNE 30, 2000	173	90	3

		Recipients: Retirement Annuitants	Recipients: Disabled	Recipients: Survivors
A.	ON JUNE 30, 1999	196	0	71
B.	ADDITIONS	19	0	3
C.	DELETIONS			
	1. Service Retirement	0	0	0
	2. Death	(6)	0	(3)
	3. Annuity Expired	0	0	0
	4. Returned as Active	0	0	0
D.	DATA ADJUSTMENTS	1	0	(1)
E.	TOTAL ON JUNE 30, 2000	210	0	70

Legislators Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 2000

A.	CURRENT ASSETS (TABLE 1, E6)			$37,265
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$0
	2. Present Value of Future Normal Costs			6,078
	3. Total Expected Future Assets			$6,078
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$43,343
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		$35,963	$35,963
	b. Disability Benefits		0	0
	c. Surviving Spouse and Child Benefits		5,660	5,660
	2. Deferred Retirements with Future Augmentation		8,843	8,843
	3. Former Members without Vested Rights		41	41
	4. Active Members			
	a. Retirement Annuities	1,030	13,507	14,537
	b. Disability Benefits	0	0	0
	c. Survivor's Benefits	203	0	203
	d. Deferred Retirements	227	1,375	1,602
	e. Refund Liability Due to Death or Withdrawal	0	92	92
	5. Total Current Benefit Obligations	$1,460	$65,481	$66,941
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$8,501
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$75,442
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			$29,676
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			$32,099

Legislators Retirement Fund

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

(dollars in thousands)

JULY 1, 2000

	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	$21,953	$4,343	$17,610
b. Disability Benefits	0	0	0
c. Survivor's Benefit	310	136	174
d. Deferred Retirements	2,548	1,120	1,428
e. Refunds Due to Death or Withdrawal	124	479	(355)
f. Total	$24,935	$6,078	$18,857
2. Deferred Retirements With Future Augmentation	8,843		8,843
3. Former Members Without Vested Rights	41		41
4. Annuitants in MPRIF	30,934		30,934
5. Recipients Not in MPRIF	10,689		10,689
6. Total	$75,442	$6,078	$69,364

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$69,364
2. Current Assets (Table 1, E6)	37,265
3. UAAL (B1-B2)	$32,099
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	$86,231
2. Supplemental Contribution Rate (B3/C1)	37.22%

Legislators Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	$32,944
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	1. Normal Cost and Expenses	$1,232
	2. Contribution	(3,715)
	3. Interest on A, B1 and B2	2,695
	4. Total (B1+B2+B3)	$212
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	$33,156
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	1. Salary Increases	($1,367)
	2. Investment Return	640
	3. MPRIF Mortality	709
	4. Mortality of Other Benefit Recipients	(254)
	5. Other Items	(785)
	6. Total	($1,057)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	$32,099
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	0
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	$32,099

Legislators Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 3A		
1. Employee Contributions	9.00%	$544
2. Employer Contributions	0.00%	0
3. Total	9.00%	$544

* Employer contributions are required to cover the portion of the benefit liabilities which are not funded by the member's accumulated contribution at the time of benefit commencement.

	Percent of Payroll	Dollar Amount
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	13.75%	$831
b. Disability Benefits	0.00%	0
c. Survivors	0.45%	27
d. Deferred Retirement Benefits	2.66%	161
e. Refunds Due to Death or Withdrawal	1.29%	78
f. Total	18.15%	$1,097
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	37.22%	2,249
3. Allowance for Expenses	0.51%	31
4. Total	55.88%	$3,377
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-46.88%	($2,833)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is $6,043.

Legislators Retirement Fund

Summary of Actuarial Assumptions and Methods

GENERAL

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 using a 6% post-retirement assumption. For those not yet in pay status, a 5% post-retirement interest rate is used to account for the one-time adjustment applicable at retirement.

Salary Increases: 5.0% annually

Mortality:

Pre-Retirement:
Male - 1983 GAM (Males -4)
Female - 1983 GAM (Females -2)

Post-Retirement:
Male - 1983 GAM (Males)
Female - 1983 GAM (Females)

Post-Disability:
Male - N/A
Female - N/A

Retirement Age: Age 62 or if over age 62, one year from valuation date.

Separation: Rates based on years of service.

Year	House	Senate
1	0%	0%
2	30	0
3	0	0
4	20	25
5	0	0
6	10	0
7	0	0
8	5	10

***Disability*:**	None
***Expenses*:**	Prior year administration expenses expressed as percentage of prior year payroll.
***Return of Contributions*:**	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
***Family Composition*:**	85% of Members are assumed to be married. Female is three years younger than male. Each Member may have up to two dependent children depending on Member's age. Assumed first child born at Member's age 28 and second child born at member's age 31.
***Social Security*:**	N/A
***Actuarial Cost Method*:**	Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Since the only assets of this plan are MPRIF assets plus non-segregated member deposits identified as receivables of the plan, all assets are valued on an "as reported" basis.
***Payment on the Unfunded Actuarial Accrued Liability*:**	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5.0% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

Legislators Retirement Fund

Summary of Plan Provisions

GENERAL

Eligibility:	Members of the State Legislature elected to office before July 1, 1997 and who elect to retain coverage under this plan (i.e., do not elect Social Security coverage.) A Member of PERA who is elected to the Legislature may elect to remain a Member of PERA and receive credit under PERA for service as a legislator.
Contributions:	
Member:	9% of salary.
Employer:	No specified statutory contribution rate. State must contribute an amount equal to the full annuity value at benefit commencement less accumulated member contributions.
Service:	Granted for the full term unless termination occurs before the end of the term. Service during all or part of four regular legislative sessions is deemed to be eight years of service.
Salary:	Compensation received for service as a Member of the legislature. Salary includes the monthly compensation paid to a legislator and the per diem payments paid during a regular or special session. Salary does not include additional compensation attributable to a leadership position.
Average Salary:	Average of the five highest successive years of salary.

RETIREMENT

Normal Retirement Benefit:

Eligibility:	Age 62 and either six full years of service or service during all or part of four regular legislative sessions. For eligibility purposes, service does not include credit for time not served when a Member does not serve a full term of office.

Amount: A percentage of Average Salary for each year of service as follows:

Prior to 1/1/79	- 5% for the first eight years - 2.5% for subsequent years
After 12/31/78 and Before 7/1/97	- 2.5%
After 6/30/97	- 2.5% actuarially increased for 6.0% post-retirement factor

***Early Retirement Benefit*:**

Eligibility: Age 60 and either six full years of Service or Service during all or part of four regular legislative sessions.

Amount: Normal Retirement Benefit based on service and Average Salary at retirement date assuming augmentation to age 62 at 3% per year and actuarial reduction for each month the Member is under age 62.

Form of Payment: Paid as a joint and survivor annuity to Member, spouse and dependent children. Combined service annuitants with less than six years of Legislator service may elect 100% joint and survivor bounceback annuity or a term certain and life annuity on an actuarially equivalent basis.

Benefit Increases: Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF).

DISABILITY

None

DEATH BENEFITS

***Surviving Spouse Benefit*:**

Eligibility: Death while active, or after termination if service requirements for a Normal Retirement Benefit are met but payments have not begun.

Amount: Survivor's payments of 50% of the retirement benefit of the Member assuming the Member had attained normal retirement age and had a minimum of eight years of service. Benefit is paid for life. A former Member's benefit is augmented as a Deferred Annuity to date of death before determining the portion payable to the spouse. If the legislator was at least age 60 at death, the surviving spouse may elect an optional joint and survivor annuity. If a deferred benefit was not eligible to be in pay status before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

***Surviving Dependent Children's Benefit*:**

Eligibility: Same as spouse's benefit.

Amount: Benefit for first child is 25% of the retirement benefit (computed as for surviving spouse) with 12.5% for each additional child. Maximum payable (including spouse) is 100% of the retirement benefit. Benefits cease when a child marries or attains age 18 (22 if a full-time student).

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

***Refund of Contributions*:**

Eligibility: Member dies before receiving any retirement benefits and survivor benefits are not payable.

Amount: Member's contributions without interest.

TERMINATION

***Refund of Contributions*:**

Eligibility: Termination of 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.

***Deferred Benefit*:**

Eligibility:	Same service requirement as for Normal Retirement.
Amount:	Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/73; 5% from 7/1/73 to 1/1/81; and 5% thereafter until the annuity begins. For Members who terminated prior to July 1, 1997 but were not eligible to commence their pensions before July 1, 1997, the benefit shall be increased to reflect the actuarial equivalent change in post-retirement interest rate from 5% to 6%. Amount is payable as a normal or early retirement.

SIGNIFICANT CHANGES

No significant changes in plan provisions were recognized for this valuation.

Legislators 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)
07/01/1991	14,694	30,403	15,709	48.33%	7,078	221.94%
07/01/1992	15,160	33,224	18,064	45.63%	6,556	275.53%
07/01/1993	17,169	36,801	19,632	46.65%	7,322	268.12%
07/01/1994	18,738	45,448	26,710	41.23%	6,589	405.37%
07/01/1995	21,213	50,255	29,042	42.21%	7,056	411.59%
07/01/1996	22,532	54,225	31,693	41.55%	6,267	505.71%
07/01/1997	25,678	60,055	34,377	42.76%	7,767	442.60%
07/01/1998	31,212	62,928	31,716	49.60%	6,802	466.27%
07/01/1999	33,474	66,418	32,944	50.40%	7,490	439.84%
07/01/2000	37,265	69,364	32,099	53.72%	5,808	552.67%

Legislators 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	32.62%	7,078	637	1,672	1,889	112.98%
1992	27.67%	6,556	590	1,224	601	49.10%
1993	30.49%	7,322	659	1,573	2,284	145.20%
1994	31.12%	6,589	593	1,457	1,618	111.05%
1995	38.34%	7,056	635	2,070	2,938	141.93%
1996	41.54%	6,267	564	2,039	1,511	74.10%
1997	43.96%	7,767	699	2,715	3,176	116.98%
1998	48.03%	6,802	612	2,655	5,199	195.82%
1999	47.19%	7,490	674	2,861	2,091	73.09%
2000	52.72%	5,808	523	2,539	3,192	125.72%
2001	47.26%					

* Includes contributions from other sources (if applicable).

Elective State Officers Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 2000

MILLIMAN & ROBERTSON, INC.

MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

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

December 1, 2000

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

RE: Elective State Officers Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 2000.

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

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

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

William V. Hogan

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

TKC/WVH/bh

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Report Highlights

(dollars in thousands)

	07/01/1999 Valuation	07/01/2000 Valuation	
A. CONTRIBUTIONS (Table 11)			
1. Statutory Contributions - Chapter 352C	0	0	*
% of Payroll			
2. Required Contributions - Chapter 356	321	340	*
% of Payroll			
3. Sufficiency (Deficiency): (A.1. - A.2.)	(321)	(340)	*
B. FUNDING RATIOS			
1. Accrued Benefit Funding Ratio			
a. Current Assets (Table 1)	$198	$199	
b. Current Benefit Obligations (Table 8)	$3,373	$3,535	
c. Funding Ratio: (a/b)	5.87%	5.63%	
2. Accrued Liability Funding Ratio			
a. Current Assets (Table 1)	$198	$199	
b. Actuarial Accrued Liability (Table 9)	$3,373	$3,535	
c. Funding Ratio: (a/b)	5.87%	5.63%	
3. Projected Benefit Funding Ratio (Table 8)			
a. Current and Expected Future Assets	$198	$199	
b. Current and Expected Future Benefit Obligations	$3,373	$3,535	
c. Funding Ratio: (a/b)	5.87%	5.63%	
C. PLAN PARTICIPANTS			
1. Active Members			
a. Number (Table 3)	0	0	
b. Projected Annual Earnings	$0	$0	
c. Average Annual Earnings (Projected $)	$0	$0	
d. Average Age	0.0	0.0	
e. Average Service	0.0	0.0	
2. Others			
a. Service Retirements (Table 4)	8	8	
b. Survivors (Table 5)	5	5	
c. Disability Retirements (Table 6)	0	0	
d. Deferred Retirements (Table 7)	4	4	
e. Terminated Other Non-vested (Table 7)	0	0	
f. Total	17	17	

* These amounts are in thousands of dollars.

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 5.63%. The corresponding ratio for the prior year was 5.87%
- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 2000 the ratio is 5.63%, which is a decrease from the 1999 value of 5.87%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 5.63% shows that the current statutory contributions are inadequate.

Asset Information (Tables 1 and 2)

The only assets of this plan are non-segregated member contributions. These assets are shown on an "as reported" basis. No asset smoothing methodology would be appropriate.

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:

- <u>For Active Members</u> – 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.
- <u>For Non-Active Members</u> – The discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

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

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll. Since this plan has no active members, the costs are shown as level dollar amounts.

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

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

Source of Actuarial Gains and Losses (Table 10)

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

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a contribution deficiency since the Statutory Contribution Amount is $0 compared to the Required Contribution Amount of $340,000.

Changes in Actuarial Assumptions

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

Changes in Plan Provisions

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

Elective State Officers Retirement Fund

Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2000

	Market Value	Cost Value
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	$0	$0
2. Fixed Income	0	0
3. Equity	0	0
4. Real Estate	0	0
5. Equity in MPRIF	0	0
6. Other	201	201
Subtotal	**$201**	**$201**
B. ASSETS RECEIVABLE	0	0
C. LIABILITIES	(2)	(2)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	0	0
2. Member Reserves	0	0
3. Other Non-MPRIF Reserves	199	199
4. Total Assets Available for Benefits	$199	$199

E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Market Value of Assets Available for Benefits (D4)		$199
2. Unrecognized Asset Returns (UAR)		
a. June 30, 2000	$0	
b. June 30, 1999	0	
3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)		0
4. Actuarial Value of Assets (E1 - E3) (Same as "Current Assets")		199

Elective State Officers Retirement Fund

Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

	Non-MPRIF Assets	MPRIF Reserve	Market Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$198	$0	$198
B. ADDITIONS			
1. Member Contributions	$0	$0	$0
2. Employer Contributions	0	0	0
3. Contributions From Other Sources	306	0	306
4. MPRIF Income	0	0	0
5. Net Investment Income			
a. Interest and Dividends	0	0	0
b. Net Realized Gain (Loss)	0	0	0
c. Net Change in Unrealized Gain (Loss)	0	0	0
d. Investment Expenses	0	0	0
e. **Net Subtotal**	0	0	0
6. Other	0	0	0
7. Total Additions	$306	$0	$306
C. OPERATING EXPENSES			
1. Service Retirements	$303	$0	$303
2. Disability Benefits	0	0	0
3. Survivor Benefits	0	0	0
4. Refunds	0	0	0
5. Administrative Expenses	2	0	2
6. Other	0	0	0
7. Total Disbursements	$305	$0	$305
D. OTHER CHANGES IN RESERVES			
1. Annuities Awarded	0	0	0
2. Total Other Changes	0	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	$199	$0	$199

F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN	
1. Average Balance	
(a) Assets Available at Beginning of Period Less Non-Segregated Member Deposits	0
(b) Assets Available at End of Period Less Non-Segregated Member Deposits	0
(c) Average Balance { [F1.a + F1.b - B5.e - B6] / 2 }	0
2. Expected Return: .085 * F1.c	0
3. Actual Return	0
4. Current Year Unrecognized Asset Return: F3 - F2	0

ELECTIVE STATE OFFICERS RETIREMENT PLAN

ACTIVE MEMBERS AS OF JUNE 30, 2000

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0
ALL	0	0	0	0	0	0	0	0	0

AVERAGE ANNUAL EARNINGS

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0
ALL	0	0	0	0	0	0	0	0	0

PRIOR FISCAL YEAR EARNINGS (IN ACTUAL DOLLARS) BY YEARS OF SERVICE

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	0	0	0	0	0	0	0	0	0

ELECTIVE STATE OFFICERS RETIREMENT PLAN

SERVICE RETIREMENTS AS OF JUNE 30, 2000

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	3	1	0	0	0	0	4
70-74	0	2	2	0	0	0	0	4
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	5	3	0	0	0	0	8

AVERAGE ANNUAL BENEFIT

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	37,104	6,510	0	0	0	0	29,456
70-74	0	18,948	28,587	0	0	0	0	23,768
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	29,842	21,228	0	0	0	0	26,612

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS RETIRED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	0	149,210	63,684	0	0	0	0	212,896

ELECTIVE STATE OFFICERS RETIREMENT PLAN

SURVIVORS AS OF JUNE 30, 2000

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	1	0	0	0	0	1
65-69	0	0	1	0	0	0	0	1
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	1	0	0	0	0	1
85+	0	0	1	0	0	1	0	2
ALL	0	0	4	0	0	1	0	5

AVERAGE ANNUAL BENEFIT

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	6,510	0	0	0	0	6,510
65-69	0	0	37,523	0	0	0	0	37,523
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	17,577	0	0	0	0	17,577
85+	0	0	32,456	0	0	8,161	0	20,309
ALL	0	0	23,517	0	0	8,161	0	20,446

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	0	0	94,068	0	0	8,161	0	102,230

ELECTIVE STATE OFFICERS RETIREMENT PLAN

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0	0	0	0	0

AVERAGE ANNUAL BENEFIT

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0	0	0	0	0

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	0	0	0	0	0	0	0	0

Elective State Officers Retirement Fund

Reconciliation Of Members

	Actives	Terminated Deferred Retirement	Terminated Other Non-Vested
A. ON JUNE 30, 1999	0	4	0
B. ADDITIONS	0	0	0
C. DELETIONS			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated - Deferred	0	0	0
5. Terminated - Refund	0	0	0
6. Terminated - Other Non-Vested	0	0	0
7. Returned as Active	0	0	0
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	0	0	0
Vested	0		
Non-Vested	0		
E. TOTAL ON JUNE 30, 2000	0	4	0

	Recipients Retirement Annuitants	Recipients Disabled	Recipients Survivors
A. ON JUNE 30, 1999	8	0	5
B. ADDITIONS	0	0	0
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	0	0	0
E. TOTAL ON JUNE 30, 2000	8	0	5

Elective State Officers Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 2000

		Non-Vested	Vested	Total
A.	CURRENT ASSETS (TABLE 1, E6)			$199
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$0
	2. Present Value of Future Normal Costs			0
	3. Total Expected Future Assets			$0
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$199
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		$2,158	$2,158
	b. Disability Benefits		0	0
	c. Surviving Spouse and Child Benefits		805	805
	2. Deferred Retirements with Future Augmentation		572	572
	3. Former Members without Vested Rights		0	0
	4. Active Members			
	a. Retirement Annuities	0	0	0
	b. Disability Benefits	0	0	0
	c. Survivor's Benefits	0	0	0
	d. Deferred Retirements	0	0	0
	e. Refund Liability Due to Death or Withdrawal	0	0	0
	5. Total Current Benefit Obligations	$0	$3,535	$3,535
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$0
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$3,535
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			$3,336
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			$3,336

Elective State Officers Retirement Fund

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

(dollars in thousands)

JULY 1, 2000

	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	$0	$0	$0
b. Disability Benefits	0	0	0
c. Survivor's Benefit	0	0	0
d. Deferred Retirements	0	0	0
e. Refunds Due to Death or Withdrawal	0	0	0
f. Total	$0	$0	$0
2. Deferred Retirements With Future Augmentation	572		572
3. Former Members Without Vested Rights	0		0
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	2,963		2,963
6. Total	$3,535	$0	$3,535

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$3,535
2. Current Assets (Table 1, E6)	199
3. UAAL (B1-B2)	$3,336
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Current UAAL to be Amortized by July 1, 2020	$3,336
2. Supplemental Contribution Amount	338

Note: If non-segregated member reserves were not counted as assets, the UAAL would be $3,537, resulting in a Supplemental Contribution Amount of 359.

Elective State Officers Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	$3,175
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	1. Normal Cost and Expenses	$5
	2. Contribution	0
	3. Interest on A, B1 and B2	270
	4. Total (B1+B2+B3)	$275
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	$3,450
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	1. Salary Increases	$0
	2. Investment Return	17
	3. MPRIF Mortality	0
	4. Mortality of Other Benefit Recipients	(182)
	5. Other Items	51
	6. Total	($114)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	$3,336
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	0
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	$3,336

Elective State Officers Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 352C		
1. Employee Contributions		$0
2. Employer Contributions		0
3. Total		$0

* Employer contributions are required to cover the portion of the benefit liabilities which are not funded by the member's accumulated contribution at the time of benefit commencement.

	Percent of Payroll	Dollar Amount
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits		$0
b. Disability Benefits		0
c. Survivors		0
d. Deferred Retirement Benefits		0
e. Refunds Due to Death or Withdrawal		0
f. Total		$0
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL		338
3. Allowance for Expenses		2
4. Total		$340
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]		($340)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is $0.

The deficiency amount shown above is calculated based on reported assets which include a receivable of 201 for member contributions that are held in the State's general fund. If this amount was not considered as an asset of the fund in these calculations, the deficiency would be 361.

Elective State Officers 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 using a 6% post-retirement assumption. For those not yet in pay status, a 5% post-retirement discount rate is used to account for the one-time adjustment applicable at retirement.
Salary Increases:	5.0% annually
Mortality:	**Pre-Retirement**: Male - 1983 GAM (Males -4) Female - 1983 GAM (Females -2) **Post-Retirement**: Male - 1983 GAM (Males) Female - 1983 GAM (Females) **Post-Disability**: Male - N/A Female - N/A
Retirement Age:	Age 62 or if over age 62, one year from valuation date.
Separation:	Rates based on years of service:

Year	Rate
1	0%
2	0
3	0
4	50
5	0
6	0
7	0
8	50

Disability:	None
Expenses:	Prior year administration expenses expressed as percentage of prior year payroll.

Return of Contributions:	All employees withdrawing after eight years of service were assumed to leave their contributions on deposit and receive a deferred annuitant benefit.
Family Composition:	85% of Members are assumed to be married. Female is three years younger than male. Each Member may have up to two dependent children depending on the Member's age. Assume first child born at Member's age 28 and second child born at Member's age 31.
Social Security:	N/A
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Only plan assets are non-segregated member contributions which theoretically serve to offset state costs. No market smoothing is applicable.
Payment on the Unfunded Actuarial Accrued Liability:	A level dollar amount each year to the statutory amortization date.

Elective State Officers Retirement Fund

Summary of Plan Provisions

GENERAL

***Eligibility*:**	Employment as a "Constitutional Officer" as elected prior to July 1, 1997 and who elect to retain coverage under this plan (i.e., do not elect Social Security coverage).
***Contributions*:**	
Member:	9% of salary.
Employer:	No specified statutory contribution rate. State must contribute an amount equal to the full annuity value at benefit commencement less accumulated member contributions.
***Allowable Service*:**	Service while in an eligible position.
***Salary*:**	Salary upon which Elective State Officers Retirement Plan contributions have been made.
***Average Salary*:**	Average of the five highest successive years of salary.

RETIREMENT

***Normal Retirement Benefit*:**	
Eligibility:	Age 62 and eight years of Allowable Service.
Amount:	2.5% of Average Salary for each year of Allowable Service. For Members who were employed as of June 30, 1997 and are still employed on July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.
***Early Retirement Benefit*:**	
Eligibility:	Age 60 and eight years of Allowable Service.

Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.5% for each month the Member is under age 62 at time of retirement.
Form of Payment:	Life annuity
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.

DISABILITY

None

DEATH

***Surviving Spouse Benefit*:**

Eligibility:	Death while active or after retirement or with at least eight years of Allowable Service.
Amount:	Survivor's payment of 50% of the retirement benefit of the Member assuming the Member had attained age 62 and had a minimum of eight years of Allowable Service. Benefit is paid for life. A former Member's benefit is augmented the same as a Deferred Annuity to date of death before determining the portion payable to the spouse. If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit as of July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

***Surviving Dependent Child Benefit*:**

Eligibility:	Same as spouse's benefit.
Amount:	Benefit for first child is 25% of the retirement benefit (computed as for surviving spouse) with 12.5% for each additional child. Maximum payable (including spouse) is 100% of the retirement benefit. Benefits cease when a child marries or attains age 18 (22 if a full-time student).

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

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

TERMINATION

Refund of Contributions:

Eligibility: Termination of service.

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

Deferred Benefit:

Eligibility: Eight years of Allowable Service.

Amount: Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/79; 5% from 7/1/79 to 1/1/81; and 3% until 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%.

SIGNIFICANT CHANGES

No significant changes were recognized for this valuation.

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TABLE 14

Elective State Officers 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)
07/01/1991	308	2,249	1,941	13.69%	422	459.95%
07/01/1992	334	2,380	2,046	14.03%	378	541.27%
07/01/1993	322	2,689	2,367	11.97%	500	473.40%
07/01/1994	361	2,848	2,487	12.68%	411	605.11%
07/01/1995	378	2,948	2,570	12.82%	422	609.00%
07/01/1996	412	2,983	2,571	13.81%	456	563.82%
07/01/1997	456	3,214	2,758	14.19%	467	590.58%
07/01/1998	500	3,369	2,869	14.84%	461	622.34%
07/01/1999	198	3,373	3,175	5.87%	291	1091.07%
07/01/2000	199	3,535	3,336	5.63%	0	N/A

Elective State Officers 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	34.84%	422	38	109	40	36.70%
1992	33.28%	378	34	92	111	120.65%
1993	36.23%	500	45	136	88	64.71%
1994	38.64%	411	37	122	164	134.43%
1995	42.00%	422	38	139	165	118.71%
1996	43.58%	456	41	158	151	95.57%
1997	43.49%	467	42	161	167	103.73%
1998	51.07%	461	42	193	175	90.67%
1999	51.66%	291	26	124	40	32.26%
2000	321 **	0	0	0	306	N/A
2001	340					

* Includes contributions from other sources (if applicable).
** Shown in thousands of dollars for years after 1999.

Judges Retirement Fund

ACTUARIAL VALUATION REPORT

July 1, 2000

MILLIMAN & ROBERTSON, INC.

MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

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

December 1, 2000

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

RE: Judges Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 2000.

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

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

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

William V. Hogan

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

TKC/WVH/bh

Judges Retirement Fund

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Judges Retirement Fund

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(Continued)

Report Highlights

(dollars in thousands)

	07/01/1999 Valuation	07/01/2000 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 490 % of Payroll	28.50%	28.50%
2. Required Contributions - Chapter 356 % of Payroll	26.75%	27.03%
3. Sufficiency (Deficiency): (A.1. - A.2.)	1.75%	1.47%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$97,692	$111,113
b. Current Benefit Obligations (Table 8)	$133,375	$146,921
c. Funding Ratio: (a/b)	73.25%	75.63%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$97,692	$111,113
b. Actuarial Accrued Liability (Table 9)	$139,649	$153,660
c. Funding Ratio: (a/b)	69.96%	72.31%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$186,761	$200,342
b. Current and Expected Future Benefit Obligations	$179,773	$194,424
c. Funding Ratio: (a/b)	103.89%	103.04%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	282	282
b. Projected Annual Earnings	$27,080	$28,186
c. Average Annual Earnings (Projected $)	$96,027	$99,949
d. Average Age	53.9	54.4
e. Average Service	10.6	10.9
2. Others		
a. Service Retirements (Table 4)	149	153
b. Survivors (Table 5)	83	82
c. Disability Retirements (Table 6)	6	4
d. Deferred Retirements (Table 7)	11	9
e. Terminated Other Non-vested (Table 7)	1	2
f. Total	250	250

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 75.63%. The corresponding ratio for the prior year was 73.25%
- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 2000 the ratio is 72.31%, which is an increase from the 1999 value of 69.96%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 103.04% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

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

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

> Market Value of Assets at June 30, 2000, *less*
>
> 80% of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between 06/30/99 and 06/30/2000

and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); *less*

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

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

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

Actuarial Balance Sheet (Table 8)

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

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

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

GASB Disclosure

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

Actuarial Cost Method (Table 9)

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

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

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

The payments will increase 5.00% 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.

Source of Actuarial Gains and Losses (Table 10)

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

Contribution Sufficiency (Table 11)

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

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

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

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 28.50% compared to the Required Contribution Rate of 27.03%.

Changes in Actuarial Assumptions and Methods

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

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

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

Changes in Plan Provisions

- Benefit cap changed from 70% of final pay to 76.8% of high five years average salary.
- Employee contributions directed to Unclassified Plan after benefit cap is reached.

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Judges Retirement Fund

Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2000

	Market Value	Cost Value
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	$6,778	$6,778
2. Fixed Income	6,310	6,444
3. Equity	18,567	16,629
4. Real Estate	934	778
5. Equity in MPRIF	81,323	81,323
6. Other	0	0
Subtotal	$113,912	$111,952
B. ASSETS RECEIVABLE	8	8
C. LIABILITIES	(1,234)	(1,234)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	81,323	81,323
2. Member Reserves	13,740	13,740
3. Other Non-MPRIF Reserves	17,623	15,663
4. Total Assets Available for Benefits	$112,686	$110,726

E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Market Value of Assets Available for Benefits (D4)		$112,686
2. Unrecognized Asset Returns (UAR)		
a. June 30, 2000	$426	
b. June 30, 1999	2,053	
3. UAR Adjustment: .80 * (E2.a) + .60 * (E2.b)		1,573
4. Actuarial Value of Assets (E1 - E3) (Same as "Current Assets")		111,113

Judges Retirement Fund

Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

	Non-MPRIF Assets	MPRIF Reserve	Market Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$26,748	$72,997	$99,745
B. ADDITIONS			
1. Member Contributions	$2,107	$0	$2,107
2. Employer Contributions	5,398	0	5,398
3. Contributions From Other Sources	1,900	0	1,900
4. MPRIF Income	0	12,181	12,181
5. Net Investment Income			
a. Interest and Dividends	3,963	0	3,963
b. Net Realized Gain (Loss)	0	0	0
c. Net Change in Unrealized Gain (Loss)	(1,120)	0	(1,120)
d. Investment Expenses	(35)	0	(35)
e. **Net Subtotal**	2,808	0	2,808
6. Other	10	0	10
7. Total Additions	$12,223	$12,181	$24,404
C. OPERATING EXPENSES			
1. Service Retirements	$1,900	$9,182	$11,082
2. Disability Benefits	0	0	0
3. Survivor Benefits	0	0	0
4. Refunds	122	0	122
5. Administrative Expenses	42	0	42
6. Other	217	0	217
7. Total Disbursements	$2,281	$9,182	$11,463
D. OTHER CHANGES IN RESERVES			
1. Annuities Awarded	(4,340)	4,340	0
2. Mortality Gain/Loss	(987)	987	0
3. Total Other Changes	(5,327)	5,327	0
E. ASSETS AVAILABLE AT END OF PERIOD	$31,363	$81,323	$112,686

F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN

1. Average Balance	
(a) Non-MPRIF Assets Available at Beginning of Period	26,748
(b) Non-MPRIF Assets Available at End of Period*	32,350
(c) Average Balance { [F1.a + F1.b - B5.e - B6] / 2 }	28,140
2. Expected Return: .085 * F1.c	2,392
3. Actual Return	2,818
4. Current Year Unrecognized Asset Return: F3 - F2	426

** Before adjustment for MPRIF mortality gain/loss*

JUDGES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 2000

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	1	0	0	0	0	0	0	1
35-39	0	1	1	0	0	0	0	0	2
40-44	3	7	7	0	0	0	0	0	17
45-49	3	16	19	3	1	0	0	0	42
50-54	1	17	22	30	16	0	0	0	86
55-59	1	12	15	13	20	9	0	0	70
60-64	1	6	2	13	5	20	0	0	47
65+	0	0	2	7	2	6	0	0	17
ALL	9	60	68	66	44	35	0	0	282

AVERAGE ANNUAL EARNINGS

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	96,751	0	0	0	0	0	0	96,751
35-39	0	96,751	96,751	0	0	0	0	0	96,751
40-44	56,751	96,751	85,758	0	0	0	0	0	85,166
45-49	86,220	97,145	99,243	84,240	96,751	0	0	0	96,383
50-54	89,873	97,865	90,172	97,502	96,772	0	0	0	95,474
55-59	85,883	96,751	99,620	96,838	97,940	98,154	0	0	97,747
60-64	1,200	96,751	58,374	97,123	98,014	97,624	0	0	93,694
65+	0	0	103,066	99,035	97,426	97,803	0	0	98,885
ALL	67,319	97,172	93,877	96,856	97,473	97,791	0	0	95,474

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

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
All	605	5,830	6,383	6,392	4,288	3,422	0	0	26,923

JUDGES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 2000

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	4	1	1	0	0	0	0	6
65-69	3	13	1	0	0	0	0	17
70-74	2	23	20	6	0	0	0	51
75-79	0	0	26	16	2	0	0	44
80-84	0	0	0	10	3	0	0	13
85+	0	0	0	0	12	7	3	22
ALL	9	37	48	32	17	7	3	153

AVERAGE ANNUAL BENEFIT

	Years Retired							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	43,175	56,373	75,386	0	0	0	0	50,743
65-69	50,290	57,635	39,399	0	0	0	0	55,266
70-74	18,493	44,297	58,368	52,888	0	0	0	49,814
75-79	0	0	62,998	55,083	45,131	0	0	59,308
80-84	0	0	0	56,334	71,672	0	0	59,874
85+	0	0	0	0	66,955	54,474	56,441	61,550
ALL	40,062	49,310	60,835	55,062	65,220	54,474	56,441	55,729

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	360	1,824	2,920	1,761	1,108	381	169	8,526

JUDGES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 2000

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	1	1	1	0	0	0	3
50-54	0	0	0	1	0	0	0	1
55-59	1	1	0	2	0	0	0	4
60-64	0	1	0	2	0	0	0	3
65-69	0	3	2	0	0	0	0	5
70-74	1	3	5	3	2	2	1	17
75-79	1	2	3	1	1	0	2	10
80-84	2	3	2	2	1	0	3	13
85+	0	3	4	1	1	3	14	26
ALL	5	17	17	13	5	5	20	82

AVERAGE ANNUAL BENEFIT

	Years Since Death							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	29,885	36,569	38,619	0	0	0	35,024
50-54	0	0	0	41,581	0	0	0	41,581
55-59	51,537	32,942	0	47,086	0	0	0	44,663
60-64	0	38,523	0	33,325	0	0	0	35,058
65-69	0	23,931	36,772	0	0	0	0	29,067
70-74	20,104	39,379	35,749	35,139	30,421	17,819	21,632	31,795
75-79	25,217	36,073	37,839	57,999	36,407	0	26,761	35,881
80-84	35,054	49,729	44,322	29,162	49,846	0	33,410	39,718
85+	0	47,854	26,933	32,881	45,471	19,826	28,507	30,316
ALL	33,393	38,599	35,221	38,126	38,513	19,023	28,724	33,899

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	166	656	598	495	192	95	574	2,779

JUDGES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 2000

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	1	0	1
75-79	0	0	0	2	0	0	0	2
80-84	0	0	0	0	1	0	0	1
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	2	1	1	0	4

AVERAGE ANNUAL BENEFIT

	Years Disabled							
Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	49,172	0	49,172
75-79	0	0	0	64,080	0	0	0	64,080
80-84	0	0	0	0	95,582	0	0	95,582
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	64,080	95,582	49,172	0	68,229

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	0	0	0	128,160	95,582	49,172	0	272,916

Judges Retirement Fund

Reconciliation Of Members

		Actives	Terminated	
			Deferred Retirement	Other Non-Vested
A.	ON JUNE 30, 1999	282	11	1
B.	ADDITIONS	8	0	0
C.	DELETIONS			
	1. Service Retirement	(7)	(2)	0
	2. Disability	0	0	0
	3. Death	(1)	0	0
	4. Terminated - Deferred	0	0	0
	5. Terminated - Refund	0	0	0
	6. Terminated - Other Non-Vested	0	0	0
	7. Returned as Active	0	0	.0
	8. Transferred to Other Fund	0	0	0
D.	DATA ADJUSTMENTS	0	0	1
	Vested	170		
	Non-Vested	112		
E.	TOTAL ON JUNE 30, 2000	282	9	2

		Recipients		
		Retirement Annuitants	Disabled	Survivors
A.	ON JUNE 30, 1999	149	6	83
B.	ADDITIONS	9	0	5
C.	DELETIONS			
	1. Service Retirement	0	0	0
	2. Death	(5)	(2)	(6)
	3. Annuity Expired	0	0	0
	4. Returned as Active	0	0	0
D.	DATA ADJUSTMENTS	0	0	0
E.	TOTAL ON JUNE 30, 2000	153	4	82

Judges Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 2000

		Non-Vested	Vested	Total
A.	CURRENT ASSETS (TABLE 1, E6)			$111,113
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$48,465
	2. Present Value of Future Normal Costs			40,764
	3. Total Expected Future Assets			$89,229
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$200,342
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		$69,855	$69,855
	b. Disability Benefits		2,010	2,010
	c. Surviving Spouse and Child Benefits		22,198	22,198
	2. Deferred Retirements with Future Augmentation		679	679
	3. Former Members without Vested Rights		18	18
	4. Active Members			
	a. Retirement Annuities	2,588	44,035	46,623
	b. Disability Benefits	2,913	0	2,913
	c. Survivor's Benefits	2,351	0	2,351
	d. Deferred Retirements	0	0	0
	e. Refund Liability Due to Death or Withdrawal	0	274	274
	5. Total Current Benefit Obligations	$7,852	$139,069	$146,921
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$47,503
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$194,424
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			$35,808
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			($5,918)

Judges Retirement Fund

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

(dollars in thousands)

JULY 1, 2000

	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	$90,008	$35,755	$54,253
b. Disability Benefits	5,020	2,549	2,471
c. Survivor's Benefit	4,192	2,235	1,957
d. Deferred Retirements	0	0	0
e. Refunds Due to Death or Withdrawal	444	225	219
f. Total	$99,664	$40,764	$58,900
2. Deferred Retirements With Future Augmentation	679		679
3. Former Members Without Vested Rights	18		18
4. Annuitants in MPRIF	81,323		81,323
5. Recipients Not in MPRIF	12,740		12,740
6. Total	$194,424	$40,764	$153,660

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$153,660
2. Current Assets (Table 1, E6)	111,113
3. UAAL (B1-B2)	$42,547
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	$402,180
2. Supplemental Contribution Rate (B3/C1)	10.58%

Judges Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 2000

A.	UAAL AT BEGINNING OF YEAR	$41,957
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	1. Normal Cost and Expenses	$4,404
	2. Contribution	(9,405)
	3. Interest on A, B1 and B2	3,354
	4. Total (B1+B2+B3)	($1,647)
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	$40,310
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	1. Salary Increases	($339)
	2. Investment Return	(1,305)
	3. MPRIF Mortality	987
	4. Mortality of Other Benefit Recipients	143
	5. Other Items	2,098
	6. Total	$1,584
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	$41,894
F.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO CHANGE IN ACTUARIAL METHODS	266
G.	CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	387
H.	UAAL AT END OF YEAR (E+F+G)	$42,547

Judges Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 2000

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 490		
1. Employee Contributions	8.00%	$2,255
2. Employer Contributions	20.50%	5,778
3. Total	28.50%	$8,033
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	14.32%	$4,035
b. Disability Benefits	0.98%	276
c. Survivors	0.90%	255
d. Deferred Retirement Benefits	0.00%	0
e. Refunds Due to Death or Withdrawal	0.10%	27
f. Total	16.30%	$4,593
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	10.58%	2,982
3. Allowance for Expenses	0.15%	42
4. Total	27.03%	$7,617
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	1.47%	$416

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2000 is $28,186.

Judges 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 using a 6% post-retirement assumption.
Salary Increases:	5% annually
Mortality:	**Pre-Retirement**: Male - 1983 GAM (Males -4) Female - 1983 GAM (Females -2) **Post-Retirement**: Male - 1983 GAM (Males) Female - 1983 GAM (Females) **Post-Disability**: Male - Combined Annuity Mortality Female - Combined Annuity Mortality
Retirement Age:	Age-related table as follows: Ages: 62-64 10% 65-67 20 68-70 30 71+ 100
Separation:	None
Disability:	Rates adopted by MSRS based on actual experience, most recently adjusted in 1979, as shown in rate table.
Expenses:	Prior year administration expenses expressed as percentage of prior year payroll.
Return of Contributions:	N/A
Family Composition:	Marital status as indicated by data. Female is three years younger than male.

***Social Security*:**	N/A
***Actuarial Cost Method*:**	Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Market Value less of a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during that fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2000 and July 1, 2003, when the method is fully in effect.
***Payment on the Unfunded Actuarial Accrued Liability*:**	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5.0% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percent of payroll.

Judges Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement	
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
20	3	2	0	0	0	0	0	0
21	3	2	0	0	0	0	0	0
22	4	2	0	0	0	0	0	0
23	4	2	0	0	0	0	0	0
24	4	2	0	0	0	0	0	0
25	4	2	0	0	0	0	0	0
26	4	2	0	0	0	0	0	0
27	4	3	0	0	0	0	0	0
28	4	3	0	0	0	0	0	0
29	5	3	0	0	0	0	0	0
30	5	3	0	0	2	0	0	0
31	5	3	0	0	2	0	0	0
32	5	3	0	0	2	0	0	0
33	6	4	0	0	2	0	0	0
34	6	4	0	0	2	0	0	0
35	6	4	0	0	2	1	0	0
36	7	4	0	0	2	1	0	0
37	7	5	0	0	2	1	0	0
38	8	5	0	0	2	1	0	0
39	9	5	0	0	2	2	0	0
40	9	6	0	0	2	2	0	0
41	10	6	0	0	2	2	0	0
42	10	7	0	0	2	4	0	0
43	11	7	0	0	3	4	0	0
44	12	8	0	0	3	4	0	0
45	14	8	0	0	3	5	0	0
46	15	9	0	0	5	6	0	0
47	17	10	0	0	7	7	0	0
48	19	11	0	0	9	7	0	0
49	22	12	0	0	11	10	0	0

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement	
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
50	25	14	0	0	14	10	0	0
51	28	15	0	0	16	12	0	0
52	31	16	0	0	20	14	0	0
53	35	18	0	0	24	16	0	0
54	39	19	0	0	28	20	0	0
55	43	21	0	0	34	24	0	0
56	48	23	0	0	40	30	0	0
57	52	25	0	0	46	36	0	0
58	57	28	0	0	56	44	0	0
59	61	31	0	0	66	52	0	0
60	66	34	0	0	76	62	0	0
61	71	38	0	0	90	74	0	0
62	77	42	0	0	110	88	1,000	1,000
63	84	47	0	0	136	104	1,000	1,000
64	92	52	0	0	174	122	1,000	1,000
65	101	58	0	0	0	0	2,000	2,000
66	111	64	0	0	0	0	2,000	2,000
67	124	71	0	0	0	0	2,000	2,000
68	139	78	0	0	0	0	3,000	3,000
69	156	87	0	0	0	0	3,000	3,000
70	176	97	0	0	0	0	3,000	3,000

Judges Retirement Fund

Summary of Plan Provisions

GENERAL

Eligibility:	A judge or justice of any court who is not covered under the Social Security Act. If the Member was active prior to 1/1/74, benefits may be computed according to provisions of the prior plan.
Contributions:	
Member:	8.15% of salary. Members who were active prior to 1/1/74 may contribute 4% to a special survivor retirement account. Contributions after maximum benefit is reached are redirected to the Unclassified Plan.
Employer:	20.5% of salary.
Allowable Service:	Service as a judge. Half credit is received for service not compensated at an annual salary or for service while entitled to practice law. Credit may also be earned for uncredited judicial service if the appropriate employee contributions, with interest, are made.
Salary:	Salary set by law.
Average Salary:	Average of the five highest years of salary of the last 10 years prior to retirement.

RETIREMENT

Normal Retirement Benefit:	
Eligibility:	Age 65 and five years of Allowable Service. Age 70.
Amount:	2.7% of Average Salary for each year of Allowable Service prior to 7/1/80 and 3.2% of Average Salary for each year of Allowable Service after 6/30/80. Maximum benefit of 76.8% of average salary for the high five years preceding retirement.

***Early Retirement Benefit*:**

Eligibility:	Age 62 and five years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.5% for each month the Member is under age 65 at time of retirement.
Form of Payment:	Life annuity. Actuarial equivalent options are: - 50% or 100% joint and survivor - 50% or 100% bounce back joint and survivor - 10 or 15 year certain and life
Benefit Increases:	Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF).

DISABILITY

***Disability Benefit*:**

Eligibility:	Permanent inability to perform the functions of judge.
Amount:	No benefit is paid by the Fund. Instead salary is continued for one year but not beyond age 70. Employee contributions continue and Allowable Service is earned.

***Retirement After Disability*:**

Eligibility:	Member is still disabled after salary payments cease after one year or at age 70, if earlier.
Amount:	Larger of 25% of Average Salary or the Normal Retirement Benefit, without reduction.
Benefit Increases:	Same as for retirement.

DEATH

***Survivor's Benefit*:**

Eligibility:	Active or disabled Member dies before retirement or a former Member eligible for a deferred annuity dies.
Amount:	Larger of 25% of Average Salary or 60% of Normal Retirement Benefit had the Member retired at date of death. 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, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%. Benefit paid to spouse for life. If no spouse, benefit is paid to surviving dependent children until child marries, dies, or attains age 18 (age 22 if full-time student).
Benefit Increases:	Same as for retirement.

***Prior Survivors' Benefit*:**

Eligibility:	Retired Member dies who did not elect an optional annuity and such Member retired prior to 1/1/74 or was in office prior to 1/1/74 and continued contributing 4% of pay to provide this post-retirement death benefit.
Amount:	50% of the retired Member's benefit continues to the surviving spouse if married three years. Benefit begins immediately unless spouse is not yet age 40 and continues to death. 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, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.

***Refund of Contributions*:**

Eligibility:	Member dies prior to retirement or former Member eligible for a deferred annuity dies and survivors' benefits are not payable.
Amount:	Member's contributions with 5% interest.

TERMINATION

***Refund of Contributions*:**

Eligibility:	Termination of service as a judge.
Amount:	Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund.

***Deferred Benefit*:**

Eligibility:	Five years of Allowable Service.
Amount:	Benefit computed under law in effect at termination. Amount is payable as a normal or early retirement annuity. 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%.

SIGNIFICANT CHANGES:

- Benefit cap changed from 70% of salary in final 12 months preceding retirement to 76.8% of average salary for high five years preceding retirement.
- Employee contributions are directed to Unclassified Plan after maximum benefit is reached.

Judges Retirement Fund

Summary of Plan Provisions

GENERAL

Eligibility: A judge or justice of any court who is covered under the Social Security Act.

Contributions:

Member: 8.00% of salary. (Amended 1998) Contributions after maximum benefit is reached are redirected to the Unclassified Plan.

Employer: 20.5% of salary.

Allowable Service: Service as a judge. Half credit is received for service not compensated at an annual salary or for service while entitled to practice law. Credit may also be earned for uncredited judicial service if the appropriate employee contributions, with interest, are made.

Salary: Salary set by law.

Average Salary: Average of the five highest years of salary of the last 10 years prior to retirement.

RETIREMENT

Normal Retirement Benefit:

Eligibility: Age 65 and five years of Allowable Service. Age 70.

Amount: 2.7% of Average Salary for each year of Allowable Service prior to 7/1/80 and 3.2% of Average Salary for each year of Allowable Service after 6/30/80. Maximum benefit of 76.8% of average salary for the high five years preceding retirement.

Early Retirement Benefit:

Eligibility: Age 62 and five years of Allowable Service.

Amount: Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.5% for each month the Member is under age 65 at time of retirement.

Form of Payment: Life annuity:

- 50% or 100% joint and survivor
- 50% or 100% bounce back joint and survivor
- 10 or 15 year certain and life

Benefit Increases: Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF).

DISABILITY

Disability Benefit:

Eligibility: Permanent inability to perform the functions of judge.

Amount: No benefit is paid by the Fund. Instead salary is continued for one year but not beyond age 70. Employee contributions continue and Allowable Service is earned.

Retirement After Disability:

Eligibility: Member is still disabled after salary payments cease after one year or at age 70, if earlier.

Amount: Larger of 25% of Average Salary or the Normal Retirement Benefit, without reduction.

Benefit Increases: Same as for retirement.

DEATH

***Survivor's Benefit*:**

Eligibility:	Active or disabled Member dies before retirement or a former Member eligible for a deferred annuity dies.
Amount:	Larger of 25% of Average Salary or 60% of Normal Retirement Benefit had the Member retired at date of death. 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, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%. Benefit paid to spouse for life. If no spouse, benefit is paid to surviving dependent children until child marries, dies, or attains age 18 (age 22 if full-time student).
Benefit Increases:	Same as for retirement.

***Refund of Contributions*:**

Eligibility:	Member dies prior to retirement or former Member eligible for a deferred annuity dies and survivors' benefits are not payable.
Amount:	Member's contributions with 5% interest.

TERMINATION

***Refund of Contributions*:**

Eligibility:	Termination of service as a judge.
Amount:	Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund.

***Deferred Benefit*:**

Eligibility:	Five years of Allowable Service.
Amount:	Benefit computed under law in effect at termination. Amount is payable as a normal or early retirement annuity. 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%.

SIGNIFICANT CHANGES:

- Benefit cap changed from 70% of salary in final 12 months preceding retirement to 76.8% of average salary for high five years preceding retirement.
- Employee contributions are directed to Unclassified Plan after maximum benefit is reached.

Judges 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)
07/01/1991	33,559	78,429	44,870	42.79%	18,410	243.73%
07/01/1992	37,768	83,969	46,201	44.98%	22,765	202.95%
07/01/1993	44,156	90,509	46,353	48.79%	22,084	209.89%
07/01/1994	50,428	98,313	47,885	51.29%	22,264	215.08%
07/01/1995	56,813	102,238	45,425	55.57%	22,877	198.56%
07/01/1996	64,851	108,150	43,299	59.96%	22,421	193.12%
07/01/1997	74,681	117,714	43,033	63.44%	22,909	187.84%
07/01/1998	86,578	130,727	44,149	66.23%	24,965	176.84%
07/01/1999	97,692	139,649	41,957	69.96%	32,940	127.37%
07/01/2000	111,113	153,660	42,547	72.31%	26,315	161.68%

Judges 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	23.59%	18,410	799	3,544	0	0.00%
1992	25.10%	22,765	988	4,726	4,722	99.92%
1993	26.59%	22,084	1,409	4,463	4,845	108.56%
1994	26.29%	22,264	1,416	4,437	4,912	110.71%
1995	28.27%	22,877	1,455	5,012	5,162	102.99%
1996	27.32%	22,421	1,426	4,699	4,972	105.81%
1997	27.01%	22,909	1,457	4,731	6,632	140.18%
1998	27.60%	24,965	1,570	5,320	7,129	134.00%
1999	27.32%	32,940	2,069	6,930	7,051	101.75%
2000	26.75%	26,315	2,107	4,932	7,298	147.97%
2001	24.58% ***					

* Includes contributions from other sources (if applicable).

***Actuarially Required Contribution Rate prior to change in plan provisions and Asset Valuation Method is 26.81%