

**Judges Retirement Fund**  
***ACTUARIAL VALUATION REPORT***

**July 1, 2001**

 **FILE COPY**



**Milliman** USA

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December 7, 2001

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, 2001.

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.

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

Respectfully submitted,

**Milliman USA**

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Consulting Actuary

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## **Judges Retirement Fund**

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## **Judges Retirement Fund**

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# Judges Retirement Fund

## Report Highlights

(dollars in thousands)

	07/01/2000 Valuation	07/01/2001 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 490 % of Payroll	28.50%	27.95%
2. Required Contributions - Chapter 356 % of Payroll	27.03%	26.72%
3. Sufficiency (Deficiency): (A.1. - A.2.)	1.47%	1.23%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$111,113	\$123,589
b. Current Benefit Obligations (Table 8)	\$146,921	\$158,297
c. Funding Ratio: (a/b)	75.63%	78.07%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$111,113	\$123,589
b. Actuarial Accrued Liability (Table 9)	\$153,660	\$165,244
c. Funding Ratio: (a/b)	72.31%	74.79%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$200,342	\$213,754
b. Current and Expected Future Benefit Obligations	\$194,424	\$208,685
c. Funding Ratio: (a/b)	103.04%	102.43%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	282	292
b. Projected Annual Earnings	\$28,186	\$29,874
c. Average Annual Earnings (Projected \$)	\$99,949	\$102,309
d. Average Age	54.4	54.5
e. Average Service	10.9	10.7
2. Others		
a. Service Retirements (Table 4)	153	155
b. Survivors (Table 5)	82	88
c. Disability Retirements (Table 6)	4	4
d. Deferred Retirements (Table 7)	9	14
e. Terminated Other Non-vested (Table 7)	2	1
f. Total	250	262

## **Judges Retirement Fund**

### ***Commentary***

#### ***Purpose***

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

#### ***Report Highlights***

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

- The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 78.07%. The corresponding ratio for the prior year was 75.63%
- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 2001 the ratio is 74.79%, which is an increase from the 2000 value of 72.31%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 103.51% 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 MPRI. 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, 2001, *less*

80% of the current year Unrecognized Asset Return at July 1, 2001 (the difference between actual net return on Market Value of Assets between 06/30/2000 and 06/30/2001 and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2000 Actuarial Valuation); *less*

60% 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*

30% 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 superseded by Statement No. 25. Tables 14 and 15 of this report are included to fulfill the requirements of Statement No. 25.

### ***Actuarial Cost Method (Table 9)***

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

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant

percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

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

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 26.72%.

#### ***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.

#### ***Changes in Plan Provisions***

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



TABLE 1

## Judges Retirement Fund

## Statement of Plan Net Assets

(dollars in thousands)

JULY 1, 2001

	Market Value	Cost Value
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	\$8,692	\$8,692
2. Fixed Income	5,861	5,938
3. Equity	17,132	18,718
4. Real Estate	918	786
5. Equity in MPRIF	89,568	89,568
6. Other	0	0
Subtotal	<u>\$122,171</u>	<u>\$123,702</u>
B. ASSETS RECEIVABLE	11	11
C. LIABILITIES	(1,056)	(1,056)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	89,568	89,568
2. Member Reserves	15,157	15,157
3. Other Non-MPRIF Reserves	16,401	17,932
4. Total Assets Available for Benefits	<u>\$121,126</u>	<u>\$122,657</u>
E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Market Value of Assets Available for Benefits (D4)		\$121,126
2. Unrecognized Asset Returns (UAR)		
a. June 30, 2001	(\$4,168)	
b. June 30, 2000	426	
c. June 30, 1999	2,053	
3. UAR Adjustment: $.80 * (E2.a) + .60 * (E2.b) + .30 * (E2.c)$		<u>(2,463)</u>
4. Actuarial Value of Assets (E1 - E3) (Same as "Current Assets")		<u>123,589</u>

TABLE 2

## Judges Retirement Fund

## Statement of Change In Plan Net Assets

(dollars in thousands)

YEAR ENDING JUNE 30, 2001

	Non-MPRIF Assets	MPRIF Reserve	Market Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$31,363	\$81,323	\$112,686
B. ADDITIONS			
1. Member Contributions	\$2,162	\$0	\$2,162
2. Employer Contributions	5,790	0	5,790
3. Contributions From Other Sources	2,003	0	2,003
4. MPRIF Income	0	12,217	12,217
5. Net Investment Income			
a. Interest and Dividends	2,125	0	2,125
b. Net Realized Gain (Loss)	0	0	0
c. Net Change in Unrealized Gain (Loss)	(3,491)	0	(3,491)
d. Investment Expenses	(36)	0	(36)
e. Net Subtotal	(1,402)	0	(1,402)
6. Other	10	0	10
7. Total Additions	\$8,563	\$12,217	\$20,780
C. OPERATING EXPENSES			
1. Service Retirements	\$1,995	\$10,233	\$12,228
2. Disability Benefits	0	0	0
3. Survivor Benefits	0	0	0
4. Refunds	17	0	17
5. Administrative Expenses	41	0	41
6. Other	54	0	54
7. Total Disbursements	\$2,107	\$10,233	\$12,340
D. OTHER CHANGES IN RESERVES			
1. Annuities Awarded	(5,265)	5,265	0
2. Mortality Gain/Loss	(996)	996	0
3. Total Other Changes	(6,261)	6,261	0
E. ASSETS AVAILABLE AT END OF PERIOD	<u>\$31,558</u>	<u>\$89,568</u>	<u>\$121,126</u>
F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN			
1. Average Balance			
(a) Non-MPRIF Assets Available at Beginning of Period			31,363
(b) Non-MPRIF Assets Available at End of Period*			32,554
(c) Average Balance { [F1.a + F1.b - B5.e - B6] / 2 }			32,655
2. Expected Return: .085 * F1.c			2,776
3. Actual Return			(1,392)
4. Current Year Unrecognized Asset Return: F3 - F2			(4,168)

\* Before adjustment for MPRIF mortality gain/loss

**JUDGES RETIREMENT FUND****Active Members as of June 30, 2001**

Age	Years of Service								All
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<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	1	2	0	0	0	0	0	0	3
40-44	5	8	5	0	0	0	0	0	18
45-49	8	14	17	5	1	0	0	0	45
50-54	3	15	20	26	12	2	0	0	78
55-59	5	12	12	22	19	8	0	0	78
60-64	1	6	8	9	13	14	1	0	52
65+	0	0	2	5	2	8	1	0	18
ALL	23	57	64	67	47	32	2	0	292

**Average Annual Earnings**

Age	Years of Service								All
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<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	86,599	98,180	0	0	0	0	0	0	94,320
40-44	88,091	96,905	98,180	0	0	0	0	0	94,811
45-49	76,836	98,637	100,759	100,443	98,180	0	0	0	95,753
50-54	88,804	99,461	94,489	98,673	99,014	98,180	0	0	97,412
55-59	84,034	97,424	100,366	98,928	99,226	99,782	0	0	98,123
60-64	93,062	98,180	100,436	98,316	98,673	98,530	98,180	0	98,670
65+	0	0	104,589	99,161	98,180	100,870	98,180	0	100,360
ALL	83,539	98,291	98,604	98,877	98,952	99,406	98,180	0	97,559

**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	1,921	5,602	6,310	6,624	4,650	3,180	196	0	28,487

## Judges Retirement Fund

Service Retirements as of June 30, 2001

Age	Years Retired							All
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<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	3	1	0	0	0	0	8
65-69	5	14	1	0	0	0	0	20
70-74	1	17	22	5	0	0	0	45
75-79	0	1	20	16	2	0	0	39
80-84	0	0	0	14	6	0	0	20
85+	0	0	0	0	10	10	3	23
ALL	10	35	44	35	18	10	3	155

Average Annual Benefit

Age	Years Retired							All
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<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	40,233	41,723	82,574	0	0	0	0	46,084
65-69	41,335	61,321	25,182	0	0	0	0	54,518
70-74	25,632	45,499	66,479	53,598	0	0	0	56,214
75-79	0	67,391	63,644	58,538	78,464	0	0	62,405
80-84	0	0	0	60,854	51,488	0	0	58,044
85+	0	0	0	0	71,654	75,350	61,823	71,979
ALL	39,324	52,130	64,618	58,759	65,689	75,350	61,823	59,606

Total Annual Benefit (in thousands) by Years Retired

Age	<1	1-4	5-9	10-14	15-19	20-24	25+	All
All	393	1,824	2,843	2,056	1,182	753	185	9,238

## Judges Retirement Fund

Survivors as of June 30, 2001

<u>Age</u>	<u>Years Since Death</u>							<u>All</u>
	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	1	0	1	0	0	0	0	2
50-54	1	1	0	0	2	0	0	4
55-59	0	1	0	1	1	0	0	3
60-64	0	1	1	1	1	0	0	4
65-69	1	3	1	0	0	0	0	5
70-74	0	1	7	4	1	1	1	15
75-79	2	3	3	1	2	0	3	14
80-84	2	3	3	2	1	0	2	13
85+	0	5	3	2	0	3	15	28
ALL	7	18	19	11	8	4	21	88

Average Annual Benefit

<u>Age</u>	<u>Years Since Death</u>							<u>All</u>
	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50	22,202	0	40,055	0	0	0	0	31,129
50-54	13,586	32,734	0	0	43,923	0	0	33,542
55-59	0	56,451	0	37,843	65,308	0	0	53,201
60-64	0	36,083	42,196	37,538	35,467	0	0	37,821
65-69	24,326	26,213	50,194	0	0	0	0	30,632
70-74	0	64,745	35,072	40,190	25,387	24,732	23,694	36,322
75-79	29,553	32,843	37,402	63,529	40,567	0	24,309	34,817
80-84	45,445	51,796	46,456	31,942	54,598	0	42,093	45,255
85+	0	48,412	24,353	40,481	0	34,893	29,189	33,521
ALL	30,016	42,479	36,978	40,411	43,718	32,353	29,459	36,587

Total Annual Benefit (actual dollars) by Years Since Death

<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>All</u>
All	210	764	702	444	349	129	618	3,219

## Judges Retirement Fund

Disability Retirements as of June 30, 2001

<u>Age</u>	<u>Years Disabled</u>							<u>All</u>
	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<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	1	1	1	0	3
80-84	0	0	0	0	1	0	0	1
85+	0	0	0	0	0	0	0	0
<b>ALL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>4</b>

Average Annual Benefit

<u>Age</u>	<u>Years Disabled</u>							<u>All</u>
	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<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	63,117	77,263	53,860	0	64,747
80-84	0	0	0	0	104,695	0	0	104,695
85+	0	0	0	0	0	0	0	0
<b>ALL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>63,117</b>	<b>90,979</b>	<b>53,860</b>	<b>0</b>	<b>74,734</b>

Total Annual Benefit (actual dollars) by Years Disabled

<u>Age</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>All</u>
All	0	0	0	63,117	181,958	53,860	0	298,936

## Judges Retirement Fund

**Reconciliation Of Members**

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 2000	282	9	2
B. ADDITIONS	26	6	0
C. DELETIONS			
1. Service Retirement	(9)	(1)	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated - Deferred	(6)	0	0
5. Terminated - Refund	0	0	(1)
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	0	0	0
Vested	170		
Non-Vested	122		
E. TOTAL ON JUNE 30, 2001	292	14	1

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 2000	153	4	82
B. ADDITIONS	10	0	7
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	(8)	0	(1)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	0	0	0
E. TOTAL ON JUNE 30, 2001	155	4	88

## Judges Retirement Fund

**Actuarial Balance Sheet***(dollars in thousands)*

JULY 1, 2001

A.	CURRENT ASSETS (TABLE 1, E6)			\$123,589
B.	EXPECTED FUTURE ASSETS			
1.	Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			\$46,724
2.	Present Value of Future Normal Costs			43,441
3.	Total Expected Future Assets			<u>\$90,165</u>
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			<u>\$213,754</u>
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
1.	Benefit Recipients			
a.	Retirement Annuities		\$75,447	\$75,447
b.	Disability Benefits		2,126	2,126
c.	Surviving Spouse and Child Benefits		25,287	25,287
2.	Deferred Retirements with Future Augmentation		744	744
3.	Former Members without Vested Rights		1	1
4.	Active Members			
a.	Retirement Annuities	2,743	46,178	48,921
b.	Disability Benefits	3,010	0	3,010
c.	Survivor's Benefits	2,509	0	2,509
d.	Deferred Retirements	0	0	0
e.	Refund Liability Due to Death or Withdrawal	0	252	252
5.	Total Current Benefit Obligations	<u>\$8,262</u>	<u>\$150,035</u>	<u>\$158,297</u>
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$50,388</u>
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$208,685</u>
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			\$34,708
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			(\$5,069)



TABLE 9

## Judges Retirement Fund

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

JULY 1, 2001

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)-(1)-(2)
<b>A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)</b>			
1. Active Members			
a. Retirement Annuities	\$94,963	\$38,158	\$56,805
b. Disability Benefits	5,214	2,668	2,546
c. Survivor's Benefit	4,479	2,389	2,090
d. Deferred Retirements	0	0	0
e. Refunds Due to Death or Withdrawal	423	226	197
f. Total	<u>\$105,079</u>	<u>\$43,441</u>	<u>\$61,638</u>
2. Deferred Retirements With Future Augmentation	744		744
3. Former Members Without Vested Rights	1		1
4. Annuitants in MPRIF	89,568		89,568
5. Recipients Not in MPRIF	13,293		13,293
6. Total	<u>\$208,685</u>	<u>\$43,441</u>	<u>\$165,244</u>
<b>B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)</b>			
1. AAL (A6)			\$165,244
2. Current Assets (Table 1, E6)			<u>123,589</u>
3. UAAL (B1-B2)			<u>\$41,655</u>
<b>C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE</b>			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			\$410,940
2. Supplemental Contribution Rate (B3/C1)			10.14%

## Judges Retirement Fund

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

YEAR ENDING JUNE 30, 2001

A. UAAL AT BEGINNING OF YEAR	\$42,547
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$4,635
2. Contribution	(9,955)
3. Interest on A, B1 and B2	<u>3,390</u>
4. Total (B1+B2+B3)	<u>(\$1,930)</u>
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$40,617
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$720)
2. Investment Return	(2)
3. MPRIF Mortality	996
4. Mortality of Other Benefit Recipients	608
5. Other Items	<u>156</u>
6. Total	<u>\$1,038</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$41,655
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	<u>0</u>
H. UAAL AT END OF YEAR (E+F+G)	<u><u>\$41,655</u></u>

## Judges Retirement Fund

**Determination Of Contribution Sufficiency***(dollars in thousands)*

JULY 1, 2001

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 490		
1. Employee Contributions	7.45%	\$2,226
2. Employer Contributions	20.50%	6,124
3. Total	<u>27.95%</u>	<u>\$8,350</u>
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	14.47%	\$4,322
b. Disability Benefits	0.97%	290
c. Survivors	0.91%	273
d. Deferred Retirement Benefits	0.00%	0
e. Refunds Due to Death or Withdrawal	0.09%	28
f. Total	<u>16.44%</u>	<u>\$4,913</u>
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	10.14%	3,029
3. Allowance for Expenses	<u>0.14%</u>	<u>42</u>
4. Total	<u>26.72%</u>	<u>\$7,984</u>
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	1.23%	\$366

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 2001 is \$29,874.

## Judges Retirement Fund

**SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

<b>Interest:</b>	<b>Pre-Retirement:</b> 8.5% per annum <b>Post-Retirement:</b> 8.5% per annum
<b>Benefit Increases After Retirement:</b>	Payment of earnings on retired reserves in excess of 6% accounted for by using a 6% post-retirement assumption.
<b>Salary Increases:</b>	5% annually
<b>Mortality:</b>	<b>Pre-Retirement:</b> Male - 1983 GAM (Males -4) Female - 1983 GAM (Females -2) <b>Post-Retirement:</b> Male - 1983 GAM (Males) Female - 1983 GAM (Females)  <b>Post-Disability:</b> Male - Combined Annuity Mortality Female - Combined Annuity Mortality
<b>Retirement Age:</b>	Age-related table as follows:  Ages: 62-64 10% 65-67 20 68-70 30 71+ 100
<b>Separation:</b>	None
<b>Disability:</b>	Rates adopted by MSRS based on actual experience, most recently adjusted in 1979, as shown in rate table.
<b>Expenses:</b>	Prior year administration expenses expressed as percentage of prior year payroll.
<b>Return of Contributions:</b>	N/A
<b>Family Composition:</b>	Marital status as indicated by data. Female is three years younger than male.

<b><i>Social Security:</i></b>	N/A
<b><i>Actuarial Cost Method:</i></b>	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.
<b><i>Asset Valuation Method:</i></b>	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, 2001 and July 1, 2003, when the method is fully in effect.
<b><i>Payment on the Unfunded Actuarial Accrued Liability:</i></b>	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.

**TABLE 12**  
(Continued)

**Judges Retirement Fund**

***Summary of Actuarial Assumptions and Methods***

**Separation Expressed as Number of Occurrences Per 10,000:**

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

**TABLE 12**  
(Continued)

**Judges Retirement Fund**

**Summary of Actuarial Assumptions and Methods**

**Separation Expressed as Number of Occurrences Per 10,000:**

<u>Age</u>	<u>Death</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
50	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**

<b><i>Eligibility:</i></b>	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.
<b><i>Contributions:</i></b>	
<b><i>Member:</i></b>	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.
<b><i>Employer:</i></b>	20.5% of salary.
<b><i>Allowable Service:</i></b>	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.
<b><i>Salary:</i></b>	Salary set by law.
<b><i>Average Salary:</i></b>	Average of the five highest years of salary of the last 10 years prior to retirement.

**RETIREMENT**

***Normal Retirement Benefit:***

<b><i>Eligibility:</i></b>	Age 65 and five years of Allowable Service. Age 70.
<b><i>Amount:</i></b>	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:***

<i>Eligibility:</i>	Age 62 and five years of Allowable Service.
<i>Amount:</i>	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.
<i>Form of Payment:</i>	Life annuity. Actuarial equivalent options are: <ul style="list-style-type: none"><li>- 50% or 100% joint and survivor</li><li>- 50% or 100% bounce back joint and survivor</li><li>- 10 or 15 year certain and life</li></ul>
<i>Benefit Increases:</i>	Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF).

**DISABILITY**

***Disability Benefit:***

<i>Eligibility:</i>	Permanent inability to perform the functions of judge.
<i>Amount:</i>	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:***

<i>Eligibility:</i>	Member is still disabled after salary payments cease after one year or at age 70, if earlier.
<i>Amount:</i>	Larger of 25% of Average Salary or the Normal Retirement Benefit, without reduction.
<i>Benefit Increases:</i>	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:***

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

**TERMINATION**

***Refund of Contributions:***

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

***Deferred Benefit:***

<i>Eligibility:</i>	Five years of Allowable Service.
<i>Amount:</i>	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:**

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

Judges Retirement Fund  
**Summary of Plan Provisions**

**GENERAL**

<b>Eligibility:</b>	A judge or justice of any court who is covered under the Social Security Act.
<b>Contributions:</b>	
<i>Member:</i>	8.00% of salary. (Amended 1998) Contributions after maximum benefit is reached are redirected to the Unclassified Plan.
<i>Employer:</i>	20.5% of salary.
<b>Allowable Service:</b>	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.
<b>Salary:</b>	Salary set by law.
<b>Average Salary:</b>	Average of the five highest years of salary of the last 10 years prior to retirement.

**RETIREMENT**

***Normal Retirement Benefit:***

<b>Eligibility:</b>	Age 65 and five years of Allowable Service. Age 70.
<b>Amount:</b>	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:***

<b>Eligibility:</b>	Age 62 and five years of Allowable Service.
<b>Amount:</b>	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:**

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

TABLE 14

**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%
07/01/2001	123,589	165,244	41,655	74.79%	28,246	147.47%



TABLE 15

**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% ***	28,246	2,162	4,781	7,793	163.00%
2002	26.72%					

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

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