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ACTUARIAL VALUATION OF THE
MINNESOTA STATE JUDGES' RETIREMENT FUND
JUNE 30, 1978



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TOWERS, PERRIN, FORSTER & CROSBY
ONE CENTURY PLAZA
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January 23, 1979

Board of Directors
Minnesota State Retirement System
529 Jackson Street
St. Paul, Minnesota 55101

Gentlemen:

We are pleased to transmit herewith our report on the actuarial valuation of the Judges' Retirement Fund made as of June 30, 1978.

Pursuant to the Contract under which this valuation was authorized, the actuarial valuation was carried out on the basis of a 5% interest rate assumption, a 3-1/2% salary scale, and on the basis of certain other specified actuarial assumptions. Also, in accordance with the above noted contract, we utilized the entry age normal cost method of funding to determine the unfunded supplemental present value of the Fund.

We hereby certify that the actuarial valuation of the Minnesota State Judges' Retirement Fund made as of June 30, 1978 was carried out on the basis of accepted actuarial methods and procedures and in accordance with the provisions of Minnesota Statutes, Chapter 356.

We look forward to the opportunity of discussing this report with you at your convenience.

Respectfully submitted,

TOWERS, PERRIN, FORSTER & CROSBY

David G. Adams *H. M. Church*
David G. Adams Harry M. Church

ACTUARIAL VALUATION
OF THE
MINNESOTA STATE JUDGES'
RETIREMENT FUND
JUNE 30, 1978

SECTION I
INTRODUCTION

In accordance with the Contract between the State of Minnesota and this firm, we have completed the actuarial valuation of the Minnesota State Judges' Retirement Fund as of June 30, 1978.

The Executive Director of the System furnished us with detailed employee information on all active members and retired members of the Fund as of June 30, 1978. The Executive Director and his staff are to be complimented on the accuracy and completeness of the aforementioned data.

The Statement of Assets on hand was accepted and used by us without audit.

The Judges' Plan is somewhat unique and it is necessary to make certain assumptions to reflect its unique provisions. The current valuation is based on the following assumptions:

- | | | |
|---|---|--|
| 1. Rate of separation from active service | - | Schedules attached (Same as MSRS) |
| 2. Interest | - | 5% (Same as MSRS) |
| 3. Salary Scale | - | 3-1/2% per annum, compounded annually (Same as MSRS) |
| 4. Mortality After Retirement | - | 1951 G.A. Mortality Table set back one year for males and two years for females (Same as MSRS) |

- | | | | |
|----|---|---|---------------------------------------|
| 5. | Social Security Monthly Primary Amount | - | \$472.10 increasing with salary scale |
| 6. | Level Social Security Contribution Rate | - | 6.79% |
| 7. | Social Security Covered Monthly Wages | - | \$1,475 increasing with salary scale |

Note: Our calculations do not require assumptions as to "average age at entry" or "average age at retirement".

The following Section II sets forth the results of the actuarial valuation and Section III contains the exhibits required by Chapter 356 of the Statutes. Schedules at the end of the report show the rates of separation from active service and a brief summary of the major provision of the plan.

SECTION II

RESULTS OF ACTUARIAL VALUATION

The entry age normal cost method of funding, required under the Law, requires the determination of the level contribution rate which, if contributed on behalf of all employees from the dates of employment to the dates of separation from service, will be adequate to provide all of their benefits. Under this funding method, the unfunded supplemental present value (unfunded accrued liability) is taken as the total liability of the Fund for benefits earned in the past as well as those earnable in the future, less the assets on hand, less the present value of future employee contributions and less the present value of future State entry age normal cost contributions.

On the basis of individual entry age calculations, we calculated the total entry age normal cost rate for Judges to be 12.65% of salary. We calculated the presently active Judges' share to be equivalent to 4.23% of total salary and the State's share to be 8.42% of total salary.

The law requires:

"The balance of all money necessary for administering this act and the judges' retirement fund, including payment of retirement compensation and other benefits under this act, shall be contributed to the fund by the state. The amount required therefore is hereby annually appropriated from the general fund to the judges retirement fund."

The Actuarial Balance Sheet shown on the following page summarizes the results of the valuation.

MINNESOTA STATE JUDGES' RETIREMENT FUND

ACTUARIAL BALANCE SHEET
AS OF JUNE 30, 1978

ASSETS

1.	Assets on Hand (Including \$2,235,982 MAFB Fund)		\$ 4,981,876
2.	Present Value of Judges' Future Contributions		3,012,786
3.	Present Value of State Future Contributions Applicable to:		
	(a) Entry Age Normal Cost	\$ 5,997,082	
	(b) Unfunded Supplemental Present Value (Unfunded Accrued Liability)	<u>15,451,491</u>	<u>21,448,573</u>
4.	TOTAL ASSETS		<u>\$29,443,235</u>

LIABILITIES

5.	Present Value of Earned and Earnable Benefits Payable to Presently Active Members:		
	(a) Retirement Benefits	\$23,725,488	
	(b) Disability Benefits	429,829	
	(c) Refundments due to death or withdrawal	611,202	
	(d) Surviving Spouse Benefits	<u>680,913</u>	\$25,447,432
6.	Present Value of Benefits Payable to Presently Retired Persons		
	(a) From Judges' Fund	\$ 1,529,630	
	(b) From MAFB Fund	<u>2,315,219</u>	3,844,849
7.	Present Value of Benefits Payable to Deferred Annuitants		102,377
8.	Accounts Payable from Accounting Balance Sheet		127,814
9.	MAFBF Annuity Stabilization Account		<u>(79,237)</u>
10.	TOTAL LIABILITIES		<u>\$29,443,235</u>

The Actuarial Balance Sheet is a convenient device to present the results of an actuarial valuation. The following comments are intended to assist you in your understanding of the items contained in the Actuarial Balance Sheet.

Item 1 shows the assets on hand from the Accounting Balance Sheet.

Item 2 shows the present value of Judges' future contributions required by law.

Item 3 shows the present value of the State's future contributions to the Fund. We have divided the present value applicable to the State's contributions as follows:

Item 3(a). The portion attributable to the State's share of the total entry age normal cost contribution of 8.42% of Judges' salaries.

Item 3(b). The portion attributable to the State's unfunded supplemental present value (unfunded accrued liability). It will require an initial annual contribution of \$933,678, increasing in accordance with the salary scale, to amortize this liability over the 19 year period ending June 30, 1997. \$933,678 amounts to 10.27% of current annual salary. It would require an annual payment of \$772,575 (8.5% of current salary) to meet the 5% interest requirement.

Items 5 through 7 show the actuarially computed present value of all benefits earned to June 30, 1978 and earnable after that date that will

be paid from the Fund to presently active members, retired members, and deferred annuitants.

Item 8 was taken from the Accounting Balance Sheet.

Item 9 shows the difference between the MAFB Fund participation and the present value of benefits payable from the MAFB Fund after adjustments for the 1978 mortality loss. The following schedule shows the determination of this figure:

1.	MAFB Participation June 30, 1978	\$2,229,017
2.	Transfer to MAFB Fund from Judges Fund for 1978 mortality loss	6,965
3.	MAFB Participation after transfer (Item 1 + Item 2)	2,235,982
4.	Present Value of benefits payable from MAFB Fund	2,315,219
5.	MAFB Annuity Stabilization Account (Item 3 - Item 4)	(79,237)

CONCLUSIONS

The results of the current valuation show that the benefits to be provided under the Fund can be financed by the Judges' contributions and the following State contributions:

	<u>Recommended State Contributions 1978-79</u>
(a) Entry Age Normal Cost	8.42%
(b) Unfunded Supplemental Present Value (Unfunded Accrued Liability)	10.27%
(c) Expenses	<u>.14%</u>
(d) Total	18.83%

It would require a contribution of 8.50% for the unfunded supplemental present value to prevent it from increasing. Thus, the total "minimum" contribution would amount to 17.06%.

Based on the actuarial assumptions utilized for the current valuation, we estimate the present value of benefits earned to June 30, 1978, by presently active and retired members, to be \$17,267,277. Applicable assets, including \$79,237 due from the MAFB Fund, amount to \$4,933,299. Thus, as of June 30, 1978, 28.6% of the liability for benefits earned to date have been funded. The corresponding ratio for June 30, 1977 was 24.8%.

SECTION III
REQUIRED EXHIBITS

Minnesota Statutes, Chapter 356, requires, in Section 356.20, Subdivision 4(1), that the actuary of the Fund prepare an exhibit setting forth certain specified information with regard to the Fund as of the valuation date, including "Reserves Required" under the Fund. In an earlier conference with representatives of the State's Employee Retirement System's Interim Commission, we were advised that "Reserve Required," as contemplated in the aforementioned statute, may be defined as the actuarially computed present value applicable to a specified benefit reduced by the actuarially computed present value of any portion of the total entry age normal cost contribution under the Fund which is applicable to the specified benefit.

The exhibit required by Section 356.20, Subdivision 4(1) of Minnesota Statutes, Chapter 356, is presented on the following pages of this Section III and we hereby certify that the reserves required set forth therein have been computed in accordance with the Entry Age Normal Cost (level Normal Cost) basis in the manner outlined in the definition referred to above.

MINNESOTA STATE JUDGES' RETIREMENT FUND

EXHIBIT REQUIRED BY MINNESOTA STATUTES, CHAPTER 356,
SECTION 356.20, SUBDIVISION 4(1)
AS OF JUNE 30, 1978

ASSETS AND UNFUNDED SUPPLEMENTAL PRESENT VALUE

Assets

1. Cash	\$ 5,137.45
2. Short Term Investments	179,000.00
3. Accounts receivable:	
a) Judges Buyback	0
b) Accrued Member Contributions	0
c) Due from MAFB Fund	0
4. Accrued Interest in Investments	43,134.70
5. Investments in Debt Securities at Amortized Cost	1,692,094.20
6. Investment in Govt National Mortgages at Amortized Cost	312,412.62
7. Investment in Equities at Cost	517,827.60
8. Dividends Declared and Payable but not yet Received	2,502.00
9. Deferred Yield Adjustment Account	(6,214.00)
10. Participation in the MAFB Fund	<u>2,235,981.89</u>
11. Total Assets	<u>\$4,981,876.46</u>
12. Unfunded Supplemental Present Value (Unfunded Accrued Liability)	15,451,490.64
13. TOTAL ASSETS AND UNFUNDED SUPPLEMENTAL PRESENT VALUE	<u>\$20,433,367.10</u>

CURRENT LIABILITIES AND RESERVES REQUIRED

Current Liabilities

14. Accounts payable:	
(a) Due SER FUND	\$ 11,315.36
(b) Security Purchases	24,541.67
(c) Due MAFB Fund	6,965.00
15. Deferred Credits and County Reimbursement	84,992.07
16. MAFBF Annuity Stabilization Account	<u>(79,237.00)</u>
17. Total Current Liabilities	\$ 48,577.10

Reserves Required

18. Total Reserves Required per attached schedule	<u>\$20,384,790.00</u>
19. TOTAL CURRENT LIABILITIES AND RESERVES REQUIRED	<u>\$20,433,367.10</u>

NOTE: Accumulated contributions, without interest, of Judges not yet retired amounted to \$1,263,739.41 as of June 30, 1978.

MINNESOTA STATE JUDGES' RETIREMENT FUND

DETERMINATION OF RESERVES REQUIRED
AS OF JUNE 30, 1978

<u>Benefits For:</u>	(1) <u>Present Value of Benefits</u>	(2) <u>Present Value of Applicable Portion of Normal Cost Contribution</u>	(3) <u>Reserves Required (1) - (2)</u>
1. Active Members:			
(a) Retirement Benefits	\$23,725,488	\$7,613,872	\$16,111,616
(b) Disability Benefits	429,829	270,652	159,177
(c) Refundments due to death or withdrawal	611,202	847,569	(236,367)
(d) Surviving Spouse Benefits	680,913	277,775	403,138
2. Deferred Annuitants	102,377	--	102,377
3. Former Members Without Vested Rights	-0-	--	-0-
4. Retired Persons	<u>3,844,849</u>	<u>--</u>	<u>3,844,849</u>
5. Total	\$29,394,658	\$9,009,868	\$20,384,790

Minnesota Statutes, Chapter 356, requires, in Section 356.20, Subdivision 4(2) and (3), that there be submitted annually an analysis of the System's income and deductions from income with increases in total reserves required being specifically referred to as a deduction from income. The exhibit required by Section 356.20, Subdivision 4(2) and (3) is presented on the following page of this Section III. Items of income and deductions from income with the exception of increases in total reserves required were taken directly from statements prepared by the Executive Director.

Inasmuch as any excess of "income" over "deductions from income" must be equal to the reduction in the Unfunded Supplemental Present Value (Unfunded Accrued Liability) of the System over the period covered by the analysis, we have confirmed that fact in Item 15 of the exhibit.

MINNESOTA STATE JUDGES' RETIREMENT FUND

EXHIBIT REQUIRED BY MINNESOTA STATUTES, CHAPTER 356,
SECTION 356.20, SUBDIVISION 4(2) AND (3)
FISCAL YEAR ENDING JUNE 30, 1978

ANALYSIS OF INCOME AND DEDUCTIONS FROM INCOME

INCOME

1. Judges' Contributions	\$ 409,895.20
2. Employer Contributions	729,384.03
3. Income on Investments	178,764.63
4. Income from MAFB Fund	<u>119,595.38</u>
5. TOTAL INCOME	<u>\$ 1,437,639.24</u>

DEDUCTIONS FROM INCOME

6. Increase in MAFBF Annuity Stabilization Account	\$ 13,980.00
7. Retirement Annuities	365,792.12
8. Surviving Spouse Benefits	47,914.91
9. Refundments	392.64
10. Disabilities	11,727.12
11. Administrative Expenses	11,268.83
12. Increase in Total Reserve Required:	
(a) Reserves Required 6-30-77	\$19,231,865.00
(b) Reserves Required 6-30-78	<u>20,384,790.00</u>
	<u>1,152,925.00</u>
13. TOTAL DEDUCTIONS FROM INCOME	\$ 1,604,000.62
14. EXCESS OF INCOME OVER DEDUCTIONS FROM INCOME	(166,361.38)
15. REDUCTION IN UNFUNDED SUPPLEMENTAL PRESENT VALUE:	
(a) Unfunded Supplemental Present Value 6-30-77	\$15,285,129.26
(b) Unfunded Supplemental Present Value 6-30-78	<u>15,451,490.64</u>
	\$ (166,361.38)

Minnesota Statutes, Chapter 356, requires, in Section 356.20, Subdivision 4(4), that there be submitted annually an analysis of changes in the membership of the Fund. Section 356.215, Subdivisions 4 and 5, requires information with respect to the annual payroll and annual annuities of the members of the Fund as well as certain information with respect to average ages. The exhibit required by Section 356.20, Subdivision 4 and Section 356.215, Subdivisions 4 and 5 is presented on the following page of this Section III.

JUDGES RETIREMENT PLAN
ANNUITANT STATEMENT AT JUNE 30, 1978
As Required by Minnesota Statutes, Chapter 356

	<u>Number</u>	<u>Annual Benefit Payable</u>
(1) SERVICE RETIREMENT ANNUITANTS		
Receiving at June 30, 1977	26	\$319,547.52
New	6	82,483.56
	<u>32</u>	<u>402,031.08</u>
Deaths	1	10,601.76
	<u>31</u>	<u>391,429.32</u>
Adjustments	0	7,850.28
		<u>399,279.60</u>
Receiving at June 30, 1978	31	399,279.60
(2) DISABLED EMPLOYEES		
Receiving at June 30, 1977	1	6,477.12
New	0	.00
	<u>1</u>	<u>6,477.12</u>
Receiving at June 30, 1978	1	6,477.12
(3) WIDOWS RECEIVING AN ANNUITY OR SURVIVOR BENEFIT		
Receiving at June 30, 1977	8	43,390.56
New	2	13,309.32
	<u>10</u>	<u>56,699.88</u>
Deaths	0	.00
	<u>10</u>	<u>56,699.88</u>
Adjustments	0	1,607.04
		<u>58,306.92</u>
Receiving at June 30, 1978	10	58,306.92
(4) CHILDREN RECEIVING A SURVIVOR BENEFIT	None	
(5) DEFERRED ANNUITANTS		
Deferred as of June 30, 1977	3	19,971.12
New	0	.00
	<u>3</u>	<u>19,971.12</u>
Deaths	0	.00
	<u>3</u>	<u>19,971.12</u>
Deferred as of June 30, 1978	3	\$ 19,971.12

AVERAGE AGE AT RETIREMENT

All Service Annuitants at 6/30/78	70 yrs. 5 mos.
New Service Annuitants 7/1/77 - 6/30/78	70 yrs. 4 mos.
7/1/76 - 6/30/77	69 yrs. 4 mos.
7/1/75 - 6/30/76	71 yrs. 5 mos.
7/1/74 - 6/30/75	71 yrs. 5 mos.

JUDGES RETIREMENT PLAN
COVERED EMPLOYEE STATEMENT
FISCAL YEAR 1978
As Required by Minnesota Statutes, Chapter 356

	<u>Number</u>	<u>Annual Salary</u>
Active at July 1, 1977	216	\$9,041,000
New Entrants	<u>8</u>	343,000
Total	224	
Less Separations from Active Service:		
Refund of Contributions	0	00
Separation with Deferred Annuity	0	00
Separation with Neither Refund- ment or Deferred Annuity	0	00
Disability Retirement	0	00
Death - Spouses Receiving Benefit	1	42,000
Service Retirement	<u>6</u>	252,000
Total Separations	7	
Active at June 30, 1978	217	9,089,988

AVERAGE ENTRY AGE OF NEW EMPLOYEES

All active members at 6/30/78	41 yrs. 6 mos.
New Members 7/1/77 - 6/30/78	46 yrs. 10 mos.
7/1/76 - 6/30/77	39 yrs. 10 mos.
7/1/75 - 6/30/76	42 yrs. 1 mo.
7/1/74 - 6/30/75	47 yrs. 8 mos.

Section 356.215, Subdivision 4 of the Minnesota Statutes, requires an analysis of the increase or decrease in the unfunded liability that occurred since the last valuation. This schedule is shown on the following page.

MINNESOTA STATE JUDGES' RETIREMENT FUND

EXHIBIT REQUIRED BY MINNESOTA STATUTES, CHAPTER 356,
SECTION 356.215, SUBDIVISION 4
FISCAL YEAR ENDING JUNE 30, 1978

1.	Unfunded Supplemental Present Value (Unfunded Accrued Liability) June 30, 1977			\$15,285,129
2.	Change due to current rate of funding and interest requirement:			
	(a) 1977-78 Contribution for Unfunded- Supplemental Present Value	-	(\$892,477)	
	(b) 5% interest requirement	+	<u>764,256</u>	+ 1,656,733
3.	Change due to actuarial gains or losses because of 1977-78 active member experience deviations from expected (balancing item)			- 1,197,445
4.	Change due to MAFB mortality loss			+ 6,965
5.	Change due to salary increases			- 564,619
6.	Change due to reduction in EANC			+ 341,876
7.	Change due to interest earnings			- 77,148
8.	Unfunded Supplemental Present Value (Unfunded Accrued Liability) June 30, 1978			\$15,451,491

SCHEDULE 1

MALE JUDGES

PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE
(Number Separating at Each Age Per 10,000 Working at That Age)

<u>Age</u>	<u>Withdrawal</u>	<u>Death</u>	<u>Disability</u>	<u>Age and Service Retirement</u>
20	2,400	6		
21	2,250	6		
22	2,080	7		
23	1,920	7		
24	1,760	7		
25	1,600	7		
26	1,470	7		
27	1,340	7		
28	1,230	8		
29	1,130	8		
30	1,040	8	2	
31	950	9	2	
32	980	10	2	
33	830	11	2	
34	770	12	2	
35	720	13	2	
36	680	15	2	
37	640	16	2	
38	600	18	2	
39	560	20	2	
40	530	22	2	
41	500	25	2	
42	480	27	2	
43	460	29	2	
44	430	32	2	
45	410	35	2	
46	390	38	3	
47	370	41	4	
48	350	44	5	
49	340	48	6	

Schedule 1

Continued

<u>Age</u>	<u>Withdrawal</u>	<u>Death</u>	<u>Disability</u>	<u>Age and Service Retirement</u>
50	320	52	7	
51	300	57	8	
52	280	63	10	
53	260	70	12	
54	240	77	14	
55	210	85	17	
56	170	93	20	
57	140	102	23	
58	90	111	28	30
59	40	120	33	30
60		130	38	40
61		140	45	150
62		150	55	150
63		160	68	250
64		170	87	1,350
65				10,000

SCHEDULE 2

FEMALE JUDGES

PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE
(Number Separating at Each Age Per 10,000 Working at That Age)

<u>Age</u>	<u>Withdrawal</u>	<u>Death</u>	<u>Disability</u>	<u>Age and Service Retirement</u>
20	3,700	1		
21	3,550	2		
22	3,390	2		
23	3,230	2		
24	3,070	3		
25	2,910	3		
26	2,750	4		
27	2,600	4		
28	2,430	4		
29	2,270	4		
30	2,120	4		
31	1,970	4		
32	1,820	4		
33	1,680	4		
34	1,540	4		
35	1,410	4	1	
36	1,300	5	1	
37	1,190	5	1	
38	1,090	6	1	
39	1,000	7	2	
40	920	8	2	
41	850	8	2	
42	780	9	3	
43	720	11	3	
44	680	13	3	
45	630	15	3	
46	590	17	4	
47	560	19	4	
48	530	21	4	
49	500	23	5	
50	470	25	5	
51	440	27	6	
52	410	30	7	
53	390	33	8	
54	360	36	10	

Schedule 2

Continued

<u>Age</u>	<u>Withdrawal</u>	<u>Death</u>	<u>Disability</u>	<u>Age and Service Retirement</u>
55	330	39	12	
56	290	43	15	
57	230	47	18	
58	170	51	22	50
59	90	56	26	50
60		61	31	150
61		66	37	150
62		72	44	200
63		78	52	350
64		83	61	1,100
65				10,000

MINNESOTA JUDGES RETIREMENT FUND

SUMMARY OF MAJOR PLAN PROVISIONS

1. Types of Coverage

With and without Social Security coverage.

For those with Social Security coverage the benefits described below are reduced by 75% of the corresponding benefit payable under Social Security.

2. Average Salary

Highest 5 year average out of the last 10 years.

3. Service Retirement

A. Eligibility for normal retirement with the full benefit amount:

age 65 with 10 years of service
mandatory retirement at age 70

B. Full benefit amount:

2-1/2% of average salary for each year of service,
not to exceed 60% of annual salary in the year pre-
ceding retirement

C. Eligibility for early retirement with the reduced benefit amount:

age 62 with 10 years of service

D. Reduced benefit amount:

full benefit amount reduced 1/15th for each year
under age 65 at retirement.

4. Disability Retirement

A. Full salary for the first two years of disability paid by the employer.

B. After two years of disability, an annuity computed in the same manner as the full benefit amount for service retirement but not less than 25% of average salary.

5. Deferred Benefits

Benefits for which a judge qualifies at termination of employment may be deferred until the early or normal retirement date.

6. Survivor's Annuity - Death Before Retirement

60% of an annuity computed in the same manner as the full benefit amount for service retirement except the judge is assumed to have retired on his date of death. Also the total survivor's benefit must be at least 25% of average salary.

7. Survivor's Annuity - Death After Retirement

- A. The normal annuity form is life with no term certain.
- B. A retiring judge may elect a joint and survivor or term certain annuity form which is actuarially equivalent to the normal annuity form.

8. Refund of Contribution

Contributions with interest are refunded on termination provided the judge does not qualify for any of the above benefits.

9. Contributions

A. Judges:

The Social Security tax rate applied to the entire salary. For those judges with Social Security coverage the appropriate portion of this contribution is paid to the Social Security fund.

B. Employer:

The state provides any additional moneys necessary to meet obligations. For those judges with Social Security coverage the state pays the employer Social Security tax.

MINNESOTA STATE JUDGES' RETIREMENT FUND
ACTUARIAL VALUATION AS OF JUNE 30, 1978

The purpose of this memorandum is to discuss the report of the valuation of the Minnesota State Judges' Retirement Fund as of June 30, 1978. This valuation was submitted to the Commission in accordance with Minnesota Statutes, Chapter 356. The entry age normal cost method was used with a 5% interest assumption. The report was prepared by Harry M. Church of Towers, Perrin, Forster and Crosby.

This memorandum contains the following:

1. Statistical and Valuation Data
2. Discussion of Valuation Results
3. Conclusion

1. Statistical and Valuation Data

(1) Membership

	June 30, 1977	June 30, 1978
Active Members	216	217
Retired Members	26	31
Disabled	1	1
Survivors	8	10
Deferred Annuitants	3	3

(2) Payroll and Annuities Payable

Total Annual Payroll	\$ 9,041,000	\$ 9,089,988
Annuities (annual)	369,415	464,064

(3) Valuation Balance Sheet

Actuarial Liabilities		
Annuities in Force	\$ 3,187,489	\$ 3,844,849
Deferred Annuities	56,394	102,377
Active Members	15,987,982	16,437,564
Total	\$19,231,865	\$20,384,790
Assets	3,946,736	4,933,299
Unfunded Accrued Liability	\$15,285,129	\$15,451,491
Funding Ratio	20.52%	24.20%

(4) <u>Normal Cost and Funding Costs</u>	<u>June 30, 1977</u>	<u>June 30, 1978</u>
Normal Cost	13.13%	12.65%
Expenses	0.14	0.14
Interest on Deficit	8.45	8.50
Minimum Contribution	21.72%	21.29%
Normal Cost plus Expenses	13.27%	12.79%
Amortization by 1997	10.34*	10.27*
Requires Contribution	23.61%	23.06%

*Based on assumption that payroll will increase 3 1/2% each year.

2. Discussion of Valuation Results

As indicated above, the normal cost turned out to be 12.65% of payroll. Since the benefit in this plan in most cases involves a Social Security offset, the judges' share of the normal cost is determined by the actuary using a formula which takes into account the employee Social Security tax. This resulted in the following division of the normal cost:

	<u>June 30, 1977</u>	<u>June 30, 1978</u>
Judges' Share	4.63%	4.23%
State's Share	8.50	8.42
Total	13.13%	12.65%

With this division of the normal cost, the State's share of the 23.06% required contribution becomes 18.83%. This compares with 18.98% in 1977. The reduction comes from small decreases in both the normal cost and amortization requirement (as percentages of payroll). Larger projected Social Security offsets produced the decline in the normal cost.

It should be noted that the amortization contribution shown above is a level percentage of a total payroll which is assumed to increase 3 1/2% per year. Since this is a group in which almost all participants receive the same salary, an increase in the salary rate produces the same percentage increase in the total payroll. Therefore, we feel that it is reasonable to base the amortization contribution on the assumption that total payroll will increase. However, for purposes of comparison, we point out that the amortization contribution based on level payroll would be 13.39%.

As shown above, the unfunded accrued liability increased by \$166,362. The MSRS Actuary gave the following analysis of this increase:

Increases:

Contribution Deficiency	\$824,426	
Mortality Loss - Retired Lives	6,965	
Change in Normal Cost	<u>341,876</u>	
Total Increases		\$1,173,267

Decreases:

Actuarial Gains - Active Lives	\$365,138	
Salary Scale Gain	564,619	
Excess Interest	<u>77,148</u>	
Total Decreases		<u>1,006,905</u>
Net Increase		\$ 166,102 362

We point out again that the valuation of this plan during the first few years has been based upon numerous untested assumptions. For the most part, the assumptions used for valuations of MSRS have been followed. We feel that the termination rates may prove to be too high and that judges will probably retire at later ages than other State employees.

We also point out that it is necessary to make assumptions about the future level of Social Security benefits and contributions, and these are rather unpredictable items.

3. Conclusion

The report complies with the requirements of the statutes. It is now the intent that the State's contribution each year be based on the results of this valuation report.

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Commission Actuary

MINNESOTA JUDGES RETIREMENT FUND

SUMMARY OF MAJOR PLAN PROVISIONS

1. Types of Coverage

With and without Social Security coverage.

For those with Social Security coverage the benefits described below are reduced by 75% of the corresponding benefit payable under Social Security.

2. Average Salary

Highest 5 year average out of the last 10 years.

3. Service Retirement

A. Eligibility for normal retirement with the full benefit amount:

age 65 with 10 years of service
mandatory retirement at age 70

B. Full benefit amount:

2-1/2% of average salary for each year of service,
not to exceed 60% of annual salary in the year pre-
ceding retirement

C. Eligibility for early retirement with the reduced benefit amount:

age 62 with 10 years of service

D. Reduced benefit amount:

full benefit amount reduced 1/15th for each year
under age 65 at retirement.

4. Disability Retirement

A. Full salary for the first two years of disability paid by the employer.

B. After two years of disability, an annuity computed in the same manner as the full benefit amount for service retirement but not less than 25% of average salary.

5. Deferred Benefits

Benefits for which a judge qualifies at termination of employment may be deferred until the early or normal retirement date.

6. Survivor's Annuity - Death Before Retirement

60% of an annuity computed in the same manner as the full benefit amount for service retirement except the judge is assumed to have retired on his date of death. Also the total survivor's benefit must be at least 25% of average salary.

7. Survivor's Annuity - Death After Retirement

- A. The normal annuity form is life with no term certain.
- B. A retiring judge may elect a joint and survivor or term certain annuity form which is actuarially equivalent to the normal annuity form.

8. Refund of Contribution

Contributions with interest are refunded on termination provided the judge does not qualify for any of the above benefits.

9. Contributions

A. Judges:

The Social Security tax rate applied to the entire salary. For those judges with Social Security coverage the appropriate portion of this contribution is paid to the Social Security fund.

B. Employer:

The state provides any additional moneys necessary to meet obligations. For those judges with Social Security coverage the state pays the employer Social Security tax.