GVS Minnesota Memorandum No. 67-5
January 19, 1968

STATE POLICE OFFICERS VALUATION AS OF JUNE 30, 1967

The purpose of this memorandum is to discuss the valuation report of the Minnesota State Police Officers Retirement Association which was submitted to the Commission in accordance with Chapter 249 of Minnesota Laws 1967. The valuation was made on the basis of the entry age normal cost method and assuming 3% interest. Our office completed this valuation and the one in 1966.

This memo contains the following:

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

1. Statistical and Valuation Data

Results of the valuation reports as of June 30, 1966 and June 30, 1967 are shown for comparative purposes. Figures are rounded where necessary for simplicity of presentation.

(1) Membership	As of June 30, 1966	As of June 30, 1967
Active Members	171	169
Retired Members	32	34
Disabled Members	1	0
Widows of Deceased Members	22	23
Children of Deceased Members	10	10
Deferred Annuitants	4	4

(2) Payroll and Annuities Payable	(Thousands of Dollars)	
Covered Payroll ($7,200 in 1966; total pay in 1967)	$ 1,108	$ 1,179
Annuities (Annual)	101	105

(3) Valuation Balance Sheet	(Thousands of Dollars)	
Accrued Liability	$ 3,249	$ 3,678
Assets	1,203	1,354
Unfunded Accrued Liability (Deficit)	$ 2,046	$ 2,324
Funding Ratio (Assets/Accrued Liability)	37%	37%

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	As of June 30, 1966		As of June 30, 1967	
(4) Normal Costs and Funding Costs		% of Covered Payroll		% of Covered Payroll
Normal Cost	$ 131,473	11.9%	$ 152,571	12.9%
Expenses	4,274	0.4	3,205	0.3
	$ 135,747	12.3%	$ 155,776	13.2%
Normal Cost Plus Expenses	$ 135,747	12.3%	$ 155,776	13.2%
Interest on Deficit	61,376	5.5	69,732	5.9
Minimum Contribution	$ 197,123	17.8%	$ 225,508	19.1%
Normal Cost Plus Expenses	$ 135,747	12.3%	$ 155,776	13.2%
Amortization by 1997	99,311	9.0	115,127	9.8
Required Contribution	$ 235,058	21.3%	$ 270,903	23.0%
(5) Statutory Contributions				
Employee		6.0%		6.0%
Employer Regular		9.0		9.0
Employer Additional		3.5		6.5
Total		18.5%		21.5%
(6) Estimated Investment Yield *		3.9%		4.0%

* Ratio of reported investment income to estimated mean assets for fiscal year.

2. Discussion of Valuation Results

Two factors make it difficult to compare the 1966 results with the 1967 results. In 1966, the maximum salary for benefits and contributions was $7,200; this ceiling has now been removed. The second factor is related to the first. In 1966, since there was little difference between total payroll and covered payroll, there seemed to be little point in introducing a salary scale into the actuarial assumptions. With the removal of the $7,200 ceiling it is now appropriate to use a salary scale, and it has been assumed that salaries will increase at the rate of 3% per year.

Although the salary scale has been used in obtaining prospective benefits, the resulting normal cost has been expressed as a percentage of current payroll without taking into account the prospective increases in payroll. This fact coupled with the relatively small increase in covered payroll accounts for the fact that the normal cost as a percentage of payroll increased.

The unfunded accrued liability has increased from $2,045,857 to $2,324,389, an increase of $278,532. This increase may be broken down as follows:

Increase from Removal of Ceiling		$ 297,840
Decrease from Actuarial Gains	$ 5,178	
Decrease from Amortization	14,130	19,308
		$ 278,532

In 1967, the total statutory contribution was increased to 21.5% of payroll. Although this is less than the 23.0% shown above as the required contribution, the result should be interpreted in the light of the procedure used in the cost calculation. Since the normal cost was based upon increasing future salaries but then related to current payroll, the normal cost as a percentage of payroll will decline in the future if actual experience follows the actuarial assumptions. In summary, the 1.5% difference is not a matter of immediate concern.

3. Survey of Experience

The Report also contains a review of actual experience compared with the actuarial assumptions.

The rate of mortality among retired lives has exceeded the assumed rates while the reverse has been true among active lives. In total, the difference between the number of expected deaths and the number of actual deaths has been very small.

Over a period of five and one-half years, the number of withdrawals has been almost three times the expected number. However, the recent trend has been in the direction of fewer withdrawals.

The number of disablements has been too small to form the basis of any study.

The average age at retirement has continued to be higher than the assumed average age of 62.5. In view of the nationwide trend toward earlier retirement and in view of the fact that members entering the fund after January 1, 1961 do not accrue any additional benefit credits after reaching age 60, it would not be prudent to change the assumed average retirement age. Since the effect of the second factor will not be felt until the recent new entrants reach age 60 many years in the future, one must not attach too great importance to the current average retirement age.

The 3% interest assumption is fixed by statute. Over the past three years, the funds have earned 3.9%, 3.9%, and 4.0%.

In summary, we concluded that no changes in actuarial assumptions were indicated other than the introduction of a salary scale as previously discussed.

4. Conclusion

Although the Report indicates a required contribution rate of 23.0% compared with statutory contributions of 21.5%, it is our opinion that the latter rate will prove to be adequate over the foreseeable future.

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Commission Actuaries