GVS Minnesota Memo #4
December 17, 1965

HIGHWAY PATROLMEN VALUATION AS OF JUNE 30, 1965

The purpose of this memorandum is to discuss the valuation report of the Minnesota Highway Patrol Officers Retirement Association which was submitted to the Commission in accordance with Chapter 359 of Minnesota Laws 1965. The valuation was made using the entry age normal cost method and assuming 3% interest. Our office completed the 1965 valuation; the 1964 valuation was completed by Brown, Conrad, Richardson and Flott, Actuaries.

This memo contains the following:

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

(Reference can be made to our report of July 16, 1964 for a similar discussion of the actuarial survey as of January 1, 1964.)

1. Statistical and Valuation Data

Results of the valuation reports as of January 1, 1964 and June 30, 1965 are shown for comparative purposes. Figures are rounded where necessary for simplicity of presentation.

(1) Membership	As of January 1, 1964	As of June 30, 1965
Active Members	378	376
Deferred Annuitants	15	9
Retired Members	44	50
Disabled Members	2	2
Widows of Deceased Members	12	14
Children of Deceased Members	5	8

(2) Payroll and Annuities Payable	(Thousands of Dollars)	
Total Payroll (no limit)	$ 2,377	$ 2,484
Covered Payroll (subject to $4,800 limit in 1964 valuation; $6,000 in 1965 valuation)	1,814	2,240
Annuities (annual)	126	145

	As of January 1, 1964	As of June 30, 1965
(3) Valuation Balance Sheet	(Thousands of Dollars)	
Accrued Liability	$ 6,870	$ 7,496
Assets	2,718	3,137
Unfunded Accrued Liability (Deficit)	$ 4,152	$ 4,358
Funding Ratio (ratio of Assets to Accrued Liability)	40%	42%

(4) Normal Cost and Funding Costs

		% of Covered Payroll		% of Covered Payroll
Normal Cost	$ 354,000	19.5%	$ 360,000	16.1%
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Interest on Deficit	125,000	6.9	131,000	5.8
Total ("Minimum Contribution")	$ 479,000	26.4%	$ 491,000	21.9%
Normal Cost	$ 354,000	19.5%	$ 360,000	16.1%
Amortization by 1997	196,000	10.8	210,000	9.4
Total ("Required Contribution")	$ 550,000	30.3%	$ 570,000	25.5%

(5) Statutory Contributions

Employee	~~7.5%~~ 7.0%	7.4%
Employer Regular	10.5	11.2
Employer Additional	0	9.0
Total Contributions	17.5%	27.6%

(6) Investment Yield (A)	(Not Available)	3.8%

(A) Ratio of reported investment income to mean reported assets for fiscal year. After deduction of administrative expenses, the ratio is reduced to 3.6%.

2. Discussion of Valuation Results

(1) Changes in Plan:

The 1965 Legislature enacted some significant amendments (Chapter 889) to the law governing the Highway Patrolmen Plan. These are outlined below:

(a) Covered Payroll: Increased from $4, 800 limit to $6, 000 limit.

(b) Retirement Benefit: Increased from $200 monthly annuity basic benefit (after age 55 and 20 years service) to $250.

(c) Disability Benefit: Same type of increase as Retirement Benefit.

(d) Widow's and Orphan's Benefit:

Before Retirement: No change in widow's benefit ($75 per month); orphan's benefit increased from $20 per month to $45 per month for each orphan plus $20 per month pro-rated equally when there is more than one orphan. (Maximum family benefit $250 per month.)

After Retirement: The 1965 law eliminated post-retirement death benefits. These benefits were taken into account in the 1964 valuation results because the practice of the Fund was to pay such benefits. This is no longer true. Under the 1965 law, an optional annuity may be elected by a retirant to provide a joint and survivor annuity which is actuarially equivalent to his life annuity.

(2) Analysis of Normal Cost

The 1965 valuation produced a normal cost of 16.1% of covered payroll as compared to 19.5% in 1964. The increase in covered payroll in going from a $4, 800 limit to a $6, 000 limit was about 24%. The normal cost has not increased proportionately as much as covered payroll. One reason is that the post-retirement death benefits have been eliminated; another is that slightly less conservative assumptions have been employed in this valuation than were used in the 1964 valuation. We feel that the 1965 valuation assumptions made by our office are appropriate for the valuation of this Fund on a realistic basis.

(3) Analysis of Change in Deficit

The deficit has increased from $4,152,000 to $4,358,000, an increase of $206,000 in the 18-month period.

This increase is the net result of several factors. The following factors have added to the deficit:

(a) More liberal Retirement and Disability Benefits.

(b) More liberal Orphans' Benefits.

(c) A 1964 contribution rate which was far short of the "Minimum Contribution" rate.

The following factors partially offset the increases produced by the above:

(a) Elimination of post-retirement death benefits.

(b) Investment earnings in excess of the assumed rate of 3%.

(c) Slightly less conservative actuarial assumptions.

The net effect has been an increase in deficit as shown.

(4) Analysis of Contributions and Funding Costs

As indicated in the 1964 valuation report, actual contributions were being made short of requirements to fund the Plan. Actual contributions of 17.5% were being made. The minimum contribution (normal cost plus interest on the deficit) was 26.4%; and the total required contribution necessary to amortize the deficit by 1997 was 30.3%.

The 1965 valuation report shows future statutory contributions to be 27.6%, as against a "minimum contribution" of 21.9% and a total "required contribution" of 25.5%. Therefore, there is an excess of 2.1% of actual contributions over the total required to fund the Plan by 1997.

The actual contributions of 27.6% of covered payroll (approximately $2,240,000) will produce $618,000. This exceeds the normal cost by approximately $258,000. If equal annual payments of $258,000 in excess of normal cost were to be paid into the Fund each year, the deficit of $4,358,000 would be eliminated in about 24 years (by 1989).

Therefore, the actual statutory contributions being made into this Fund are sufficient to finance the plan somewhat more rapidly than the maximum target date set by the Commission (1997).

3. Conclusion

In our opinion, the statutory contributions for this plan are sufficient to fund it before 1997 according to the entry age normal cost method of funding, based upon our valuation assumptions and the benefits provided by the Plan as of June 30, 1965.

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Commission Actuaries