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(1A) UNIVERSITY OF MINNESOTA (1B) POLICE DEPARTMENT
(2A) *RETIREMENT PLAN

(2B) Actuarial Valuation as of June 30, 1976

(3) November 24, 1976

(4) 12p.

OFFICE OF SENATE COUNSEL
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St. Paul, MN 55155

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retirement - public employees

THE Wyatt COMPANY

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UNIVERSITY OF MINNESOTA POLICE DEPARTMENT
RETIREMENT PLAN

Actuarial Valuation as of June 30, 1976

PURPOSE AND SUMMARY

The purpose of this report is to set forth the results of our actuarial valuation of the University of Minnesota Police Department Retirement Plan as of June 30, 1976 in order to establish the sufficiency of indicated support rates for the ensuing 12-month period.

In summary, our valuation reveals that an employer support rate of 20.75% would be indicated for the year commencing July 1, 1976. In this regard, it should be noted that the formal plan document calls for a support rate (net of employee contributions) of 21.20% thus indicating actuarial sufficiency for the period evaluated herein.

The valuation has been performed in accordance with those applicable provisions of Chapter 356 of the Minnesota Statutes (including 1975 revisions).

EMPLOYEE DATA

We received complete data covering 72 active participants, 3 service retirees, 2 surviving spouses, and 1 surviving child. The corresponding numbers last year were 73, 2, 1 and 1 respectively, although the valuation was performed on only 72 active participants. The data is summarized in Table 3.

The top step of the Police Officers' monthly salary range utilized for purposes of this valuation is \$1,317. This would compare to \$1,230 used in last year's valuation. Since prospective normal retirement benefits are based on "top" salary rates, such increases lead to increases in prospective pensions - the effect of which not only produces an increase in annual cost provisions, but in the unfunded accrued liability as well.

VALUATION OF ASSETS

A financial report for the year ended June 30, 1976 was made available to us, from which we determined fund assets for actuarial valuation purposes. This financial report is set forth in Table 2. It should be noted that for valuation purposes, we included the accrued employee contribution of \$4,246.20 made in June, 1976 and not reflected in the financial report.

PLAN VALUED

Table 4 sets forth a brief summary of the main features of the Police Department Retirement Plan.

ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial assumptions and methods employed in this valuation are outlined in Table 5 of this report. These assumptions and methods are identical to those used in last year's valuation with the exception of the method utilized for amortizing unfunded accrued liabilities and conform to those provisions of Chapter 356 of Minnesota Statutes.

Costs of the plan have been computed according to the entry-age-normal cost method (as prescribed by Statutes). Under this method, the normal cost is determined as a level percentage of salary which would be required to be paid from each member's date of employment to retirement in order to provide the benefits under the plan. The accrued liability under the method is equal to the present value of all benefits payable under the plan less the present value of future normal costs calculated in accordance with the actuarial cost method. The unfunded accrued liability is equal to the excess of the accrued liability over the applicable assets of the fund as of the valuation date.

As set forth in item 9 of Table 5, the entry-age-normal cost method has been utilized for the valuation of benefits payable from the plan other than pre-

retirement survivor's benefits and disability benefits. These two categories of benefits have been evaluated on a one-year term cost basis, following the method used in prior years.

The Statutes call for annual normal cost (under the entry-age-normal cost method) to be expressed as a level percentage of future payroll of active participants as of the date of the valuation. The Statutes also call for the computation of the Additional Rate of Support as is required to amortize unfunded accrued liabilities by the end of the fiscal year occurring in 1997. Thus, to maintain consistency, rather than compute the called for amortization of the unfunded accrued liability on a level dollar basis (the method used last year), we determined such as a level percentage of active participant covered payroll taking into account future projected increases (in accordance with the salary scale assumption utilized). The net effect of this change is to produce a decrease in the amortization of approximately \$35,000 (or 3.15% of covered payroll).

It should be noted that the "salary scale" assumption outlined in item 6 of Table 5 basically allows only for anticipated future salary increases attributable to promotions, and does not anticipate future general salary increases of an inflationary nature. Since plan benefits are related almost entirely to final four year average compensation, such general salary increases, if they occur, will produce proportional increases in that part of each participant's pension which is attributable to his past service. Unless the value of the fund produces a yield sufficient to compensate for this, in addition to the 5% actuarial requirement (as set forth in item 5 of Table 5), an upper trend in costs even when expressed as a percentage of the increased payroll will result, which would have been the case this year absent a revision in the approach to the amortization of the unfunded accrued liability.

VALUATION RESULTS

The results of our valuation are set forth in Table 1. Section A of the table sets forth basic data items relative to active and retired (including survivors) participants.

Section B sets forth the determination of the unfunded accrued liability as of June 30, 1976, amounting to \$1,819,700.

In Section C of Table 1, we have set forth the determination of the annual support rate indicated for the ensuing 12-month period, amounting to \$230,400 or 20.75% of active covered payroll. The plan calls for an employer support rate of 21.2% of covered payroll; thus, for the covered period, the plan would appear to be in actuarial balance. It should be noted that absent the revised treatment accorded the amortization of unfunded accrued liabilities, such would not be the case in that an emerging employer support rate of approximately 23.90% would result.

COMPARISON OF 1975 AND 1976 VALUATION RESULTS

In Table 6, we set forth a comparison of the principal values underlying the 1975 and 1976 valuations.

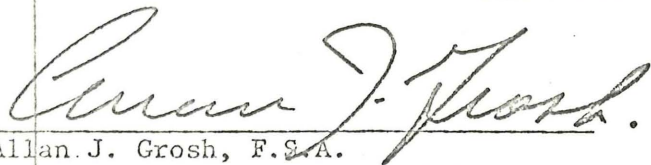
Item 5 of the table sets forth the respective unfunded accrued liabilities which have increased from \$1,599,000 to \$1,819,700. We would attribute the increase primarily to the increase in "top step" salary rates experienced to the extent not offset by fund earnings in excess of the 5% requirement. As minor items contributing to the increase, we would also highlight turnover experienced and the omission of an active participant last year.

* * * * *

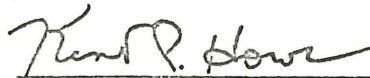
If, in connection with this valuation of the plan, any further investigations are indicated, we will be happy to proceed as directed.

Respectfully submitted,

THE WYATT COMPANY



Allan J. Grosh, F.S.A.
Member, American Academy of Actuaries



Kent P. Howe, A.S.A.
Member, American Academy of Actuaries

Minneapolis, St. Paul
November 24, 1976

Table 1

UNIVERSITY OF MINNESOTA
POLICE DEPARTMENT RETIREMENT PLAN

Actuarial Valuation as of June 30, 1976
(Valuation determinations rounded to nearest \$100)

A. BASIC DATA

1. Active participants	
(a) Number	72
(b) Average prospective annual pension <u>1/</u>	13,061
(c) Current covered payroll	1,110,540
2. Retirees, survivors	
(a) Number of service retirements and survivors	6
(b) Average annual benefit being paid	3,566

B. DETERMINATION OF JUNE 30, 1976 UNFUNDED ACCRUED LIABILITY

1. Accrued liability as of June 30, 1976	
(a) Service retirements	199,500
(b) Survivors	88,100
(c) Active participants (including refund feature)	2,987,400
(d) Total	3,275,000
2. Applicable assets per Table 2, including accrued employee contribution of \$4,246.20 as of June 30, 1976	\$1,455,300
3. Unfunded accrued liability [1.(d) less (2)]	1,819,700

C. DETERMINATION OF ANNUAL SUPPORT RATE

	Dollar Amount	Percent of Covered Payroll
1. Normal cost for service retirement, post retirement survivors benefits and employee contribution refunds	\$202,100	18.20%
2. Annual expense provision <u>4/</u>	6,800	.61
3. Term cost of pre-retirement survivors benefits	11,200	1.01
4. Term cost of disability benefits	12,800	1.15
5. Amortization of unfunded accrued liability by July 1, 1997 <u>2/</u>	99,700	8.98
6. Total indicated annual support rate	332,600	29.95
7. Employee contribution rate	102,200	9.20
8. Net employer support rate [(6) less (7)] <u>3/</u>	230,400	20.75%

- 1/ In accordance with salary scale assumptions in Table 5.
2/ Amortization as a level % of increasing covered payroll.
3/ Plan calls for Employer support rates of 21.2% of covered payroll.
4/ 2% of total contribution [.02 times 30.4%].

Table 2

UNIVERSITY OF MINNESOTA
POLICE DEPARTMENT RETIREMENT PLAN

Financial Report for Year Ended June 30, 1976

Total Value of plan as of June 30, 1975		1,081,462.26
Gross Contributions		
Employees	*\$ 96,038.08	
Employer	225,659.81	
Total	<u>\$321,697.89</u>	
Net Contribution	\$321,697.89 x .98 =	315,263.92
Withdrawals		
Annuity Payments - Jensen		3,741.71
Standing		4,411.20
Wendfeldt		<u>4,411.20</u>
		12,564.11
Survivor Payments -		
Herberg		3,240.00
Nichols		<u>973.32</u>
		4,213.32
Surrenders** -		
Dunn		4,801.48
Garcia		185.54
Rollins		1,042.54
Sande		<u>4,234.39</u>
		10,263.95
Interested Credited		
July 1, 1975 through June 30, 1976		81,350.01
Total Value of plan as of June 30, 1976		\$1,451,034.81

* Includes June 30, 1975 contribution. June 30, 1976 employee contribution of \$4,246.20 not reflected.

** Amounts do not reflect refunds made directly to employee which had not been remitted to the insurance company.

Table 3

UNIVERSITY OF MINNESOTA
POLICE DEPARTMENT RETIREMENT PLAN

Distribution of Participants as of June 30, 1976 and
Changes During Year Ending on June 30, 1976

A. ACTIVE PARTICIPANTS

Age Group Last Birthday	Male	Female	Total	Percentage Distribution	Covered Payroll
20 - 24	1	-	1	1.39%	\$12,864
25 - 29	15	3	18	25.00%	265,680
30 - 34	17	-	17	23.61%	265,224
35 - 39	6	1	7	9.72%	108,456
40 - 44	4	-	4	5.56%	63,216
45 - 49	9	-	9	12.50%	142,236
50 - 54	7	-	6	8.33%	94,824
55 - 59	10	-	10	13.80%	158,040
Total	68	4	72	100.00%	\$1,110,540

Average Attained

Age	39.68	28.25	39.05
Average Entry Age	28.10	26.25	28.00

B. ANNUITANTS

Type	Number	Annual Benefit Being Paid
1. Service retirements	3	\$15,237
2. Surviving spouses	2	5,351
3. Surviving children	1	810
4. Total	6	\$21,398

C. RECONCILIATION

	Number
1. Active members on June 30, 1975	73
2. Decrements during year	
(a) Service retirements	1
(b) Deaths	1
(c) Termination other than by death and retirement	4
(d) Total	6
3. New entrants	5
4. Active participants on June 30, 1976	72

Table 4

UNIVERSITY OF MINNESOTA
POLICE DEPARTMENT RETIREMENT PLAN

Summary of Principal Provisions of Plan

1. Eligibility: Members of the University Police Department who hold eligible positions designated by Regents are immediately eligible to participate.
2. Contributions: Employees contribute 9.2% of the lesser of actual salary or top step police officers monthly salary range. Employer contributes 21.2% of the salary on which employee contribution is based.
3. Average Salary: Average salary of top step police officers during 48-month period immediately preceding date of retirement, death, termination of active service, or onset of disability.
4. Service: Continuous full time employment in eligible position prior to age 60. Broken periods counted provided employee has not withdrawn his own contributions. Those employed on January 1, 1973 and unable to complete 20 years of service prior to age 60 will be credited with 20 years upon attainment of age 60.
5. Normal and Deferred Service Pension: Upon retirement on or after the first day of month next following or coinciding with 55th birthday (but in no event later than first day of month following 60th birthday), employee entitled to receive a benefit of 2% of average salary for each year of service subject to a maximum of 50% (i.e. 25 years).
6. Vesting: Upon termination with 20 or more years of service, employee eligible to receive as early as age 55 a benefit equal to 2% of average salary for each year of service (maximum 50%) and shall be deemed a deferred pensioner. Survivor benefits payable upon death prior to commencement of deferred pension are set forth in item 8.

Upon termination with fewer than 20 years of service, deferred benefit is determined solely on the basis of employee contributions plus interest. Upon termination with fewer than 10 years of service, employee may withdraw his own accumulated contributions with interest, in which case he would forfeit right to a deferred benefit. In the event of death prior to receipt of benefits for those who terminated with fewer than 20 years of service, accrued values are payable.

7. Disability Pension:

Upon permanent disability from causes related to his duties, employee is eligible to receive a benefit of 40% of average salary. If the disablement results from causes not related to his duties, employee is eligible for a benefit based on average salary as follows:

<u>Years of Service</u>	<u>% of Average Salary</u>
Less than 5	0
5 but less than 10	15%
10 but less than 20	40%
20 or more	See item 6.

8. Survivor Benefits:

Upon the death of a service pensioner, disability pensioner, deferred pensioner (pre- and post-retirement) or an employee in active service, survivor benefits payable as follows:

Surviving spouse: 22½% of average salary payable until death or remarriage.

Each child: 7½% of average salary payable for life.

Maximum Family Benefit: 40% of average salary.

9. Funding Vehicle:

IPG contract underwritten by Minnesota Mutual Life Insurance Company.

Table 5

UNIVERSITY OF MINNESOTA
POLICE DEPARTMENT RETIREMENT PLAN

Summary of Actuarial Assumptions and Methods

1. Pre-retirement mortality disability and turnover: In accordance with Crocker Sarason unadjusted T-1 Table.
2. Post-retirement annuitant mortality and pre-retirement survivors benefit: In accordance with Progressive Annuity Mortality Table.
3. Disability: Progressive Annuity Mortality Table used for annuitant mortality. Disability decrements determined in accordance with following sample rates:

<u>Age</u>	<u>Rate</u>
20	.00040
25	.00060
30	.00080
35	.00110
40	.00180
45	.00290
50	.00501

Cause related and non-cause related disabilities assumed to occur equally.
4. Expenses: 2% of total stipulated contribution.
5. Interest rate: 5% per annum.
6. Salary scale: 3½% per annum.
7. Assumed retirement age: Age 55, or in one year if over age 55, but not later than age 60.
8. Surviving spouse/children: Two qualified children assumed in average family of surviving spouse.
9. Actuarial cost method: Individual entry-age-normal cost method developing costs as a % of covered payroll. One year term basis for pre-retirement survivors and disability benefits.
10. Amortization of unfunded accrued liability: As a % of increasing payroll to July 1, 1997.

Table 6

UNIVERSITY OF MINNESOTA
POLICE DEPARTMENT RETIREMENT PLAN

Comparison of 1975 and 1976 Valuation Results

	<u>1975</u>	<u>1976</u>
1. Active Participants		
(a) Number	72 **	72
(b) Covered payroll	1,067,865	1,110,540
2. Retirees, Survivors		
(a) Number	4	6
(b) Average annual benefit being paid	3,016	3,566
3. Accrued Liability		
(a) Service retirements	110,000	199,500
(b) Survivors	39,600	88,100
(c) Active participants	2,530,900	2,987,400
(d) Total	2,680,500	3,275,000
4. Valuation Assets	1,081,500	1,455,300
5. Unfunded Accrued Liability	1,599,000	1,819,700
6. Annual Normal Cost (Including One Year Term Costs and Expense Provision)		
(a) Dollar amount	208,600	232,900
(b) % of covered payroll	19.53%	20.97%
7. Amortization of Unfunded Accrued Liability		
(a) Dollar amount	115,700*	99,700
(b) % of covered payroll	10.83%*	8.98%
8. Employer Support Rate (Before Offset for Employee Contributions)		
(a) Dollar amount	324,300	332,600
(b) % of covered payroll	30.37%	29.95%
9. Employee Contributions		
(a) Dollar amount	98,200	102,200
(b) % of covered payroll	9.20%	9.20%
10. Net Employer Support Rate		
(a) Dollar amount	226,100	230,400
(b) % of covered payroll	21.17%	20.75%

* Determined on basis of level dollar amortization. If increasing payroll method was used in 1975, amortization would have been \$84,200 (or 7.89% of covered payroll).

**Number valued last year although 73 actives actually participated.