UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Actuarial Valuation as of June 30, 1981

November 1, 1981

Copy to Bordwick
11/13/81

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UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Actuarial Valuation as of June 30, 1981

PURPOSE AND SUMMARY

The purpose of this report is to set forth the results of our actuarial valuation of the University of Minnesota Supplemental Benefits Plan as of June 30, 1981 in accordance with Chapter 356 of the Minnesota Statutes. The valuation has been based on the plan as in effect on June 30, 1981. In summary, our valuation reveals a Chapter 356 requirement of $394,000, well short of the $981,500 of annual benefits payable to retirees as of the valuation date.

The plan is essentially one for a "closed group" of participants; namely, existing retirees and a diminishing group of active participants soon to retire. Since appropriate projections would substantiate the diminishing nature of benefits payable under this program, any attempt to fund it strictly in accordance with the Statutes would prove to be meaningless. That is, a funding approach in strict accordance with Chapter 356 would result in a negative cash flow since current disbursements exceed resulting Chapter 356 contribution requirements.

In last year's report we again pointed out that absent further modification to the plan, normal anticipated attrition of the covered group would indirectly fund the unfunded accrued liability at a rate more rapid than that prescribed under the Statutes. As set forth later in the detail of the report, the indirect method of funding through payment of current benefits, in conjunction with additional contributions to the plan (total amounts are substantially in excess of Chapter 356 requirements), combined with other actuarial gains during the plan year, have resulted in a reduction of the unfunded accrued liability under the plan from $7,303,500 as of June 30, 1980 to $6,066,700 as of June 30, 1981.

EMPLOYEE AND FINANCIAL DATA

We received complete data covering 577 active pre-1963 participants under the Faculty Retirement Plan. Based on current account balances and the actuarial assumptions set forth below, it is projected that 38 members of this group would receive benefits from the supplemental plan. In addition, we were furnished a listing for the 379 retirees, survivors and widows presently receiving or eligible to receive benefits under the plan. The data utilized for purposes of this valuation is summarized in Table 2 of this report.

Assets of $2,073,200 as of June 30, 1981 were reported to us by the University, including a 1981 plan year contribution, in excess of current disbursements made from general funds, of $379,400.

PLAN VALUED

Since in fact benefits under this program are directly dependent on the level of benefits payable under the University's Faculty Retirement Plan, in addition to summarizing the pertinent provisions of the Supplemental Benefits Plan (pre-June 30, 1977 and post-June 30, 1977 in Tables 3(a) and 3(b) respectively) we have set forth a complete description of the principal provisions of the FRP plan in Table 3(c).

In brief, effective for retirement on or after June 30, 1977, the University adopted the revised "50%" formula as the target for supplemental benefits (as outlined in Table 3(b)) while at the same time retaining the prior formula as a "minimum" measure of benefits payable.

This report continues to reflect the revised early retirement provision that became effective on June 30, 1978 to coordinate with the current treatment of early retirees under the FRP plan (FRP benefits are currently payable immediately upon early retirement between ages 62 and 65, and the University no longer continues to make FRP contributions to an early retiree). Thus, on early retirement, benefits are payable immediately from the supplemental plan and are determined as follows:

(i) the 1 2/3% "target benefit" is projected to age 65

(ii) the FRP annuity equivalent and Social Security are both determined as payable immediately.

(iii) the benefit payable immediately is the difference between (i) and (ii).

This approach introduces an additional cost over what had been recognized in years prior to June 30, 1978 primarily attributable to the entire benefit being payable from this plan up to age 65 (previously these were charged back to the member's department outside the plan).

Recognizing these additional costs which emerge as participants retire early (we assume that members retire at age 66, on the average), the plan funds are reimbursed for these by the portion of total current disbursements representing these additional payments.

ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial assumptions and methods employed in this valuation are outlined in Table 4 of this report. These assumptions and methods conform to those provisions of Chapter 356 of the Minnesota Statutes.

The actuarial method utilized is the entry-age-normal cost method as prescribed by Statutes. Under this method, the normal cost is determined as the level percentage of future covered payroll 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 this 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 then determined by subtracting the assets on the valuation date from the accrued liability. Minnesota Statutes call for annual normal costs to be provided in addition to the amortization of unfunded accrued liabilities by the end of the fiscal year occurring in 2009. In addition, the Statutes require that any additional accrued liabilities due to future amendments be amortized over the 30 year period beginning on the last day of the plan year during which the amendments are made.

Actuarial assumptions were identical to those used in the prior year and reflect the current Social Security Law. As indicated, the amount of benefits provided under the supplemental plan are directly dependent on those benefits provided under the FRP plan. Thus, in order to appropriately determine projected benefits payable, advance assumptions were also made in regard to future projections under the FRP itself; namely, that contribution levels would continue in accordance with the salary scale assumption set forth in item 5 of Table 4. For this purpose, fund balances were projected assuming a return of 5% per annum with accumulated values converted to annuity benefits on the basis of a continuation of purchase rates utilized in 1975. This maintains a degree of conservatism in the valuation, since current annuity purchase rates (which, effective July 1, 1981 are based on an assumed interest rate of 11 %) applied to determine offsetting FRP benefits are more favorable than those used in 1975 (which are based on an assumed interest rate of 6¼%). Utilization of this more conservative basis for valuation purposes is consistent with the salary/investment return described below.

It should be noted that the combined salary/investment return assumptions of 3½%/5% are prescribed by Statute and do not anticipate future increases of an inflationary nature. In fact, to the extent that salaries increase more than 3½% and basic FRP accumulations take place at a rate in excess of 5%, the increased level of FRP benefits would serve to diminish supplemental benefits payable from the plan. Any future increases in offsetting Social Security benefits will also serve to reduce supplemental benefits payable from the plan under the post June 30, 1977 formula.

VALUTION 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 and widows) participants.

Section B sets forth the determination of accrued liability, unfunded accrued liability, annual normal cost, and annual cost provision all in accordance with Chapter 356, with the Chapter 356 annual cost provision amounting to $394,000.

In Section C of the table, we have again set forth the determination of a funding requirement on two alternative bases corresponding to suggested alternatives offered in the past. These requirements have been set forth for illustrative purposes only.

GAIN AND LOSS ANALYSIS

In Table 5 we reconcile the unfunded accrued liability over the past year and set forth a gain and loss analysis. This analysis denotes a decrease of some $224,700 in the June 30, 1981 unfunded accrued liability (when compared to that expected) which is attributable primarily to an actuarial gain resulting from changes in projected Social Security benefits and to favorable investment income pertaining to supplemental plan assets and offsetting FRP benefits. The decrease in the unfunded accrued liability is attributable to the following:

(a)	Decrease due to increases in Social Security	172,400
(b)	Decrease due to supplemental plan asset earnings in excess of 5%	90,700
(c)	Decrease due to other actuarial gains, primarily as a result of favorable investment income pertaining to offsetting FRP benefits	82,800
(d)	Increase due to early retirement subsidy for retirement prior to 65	121,200
(e)	Total Decrease ((a) + (b) + (c) - (d))	224,700

COMPARISON OF 1980 AND 1981 VALUATION RESULTS

In Table 6, we set forth a comparison of the principal values underlying the 1980 and 1981 valuations. The comparison reflects the trend indicated in recent years whereby the unfunded accrued liability has decreased from year to year as a result of the following:

1. Benefit payments have been made from general funds. Thus, total effective contributions (i.e., including current disbursements) to this plan have substantially exceeded those that would be required to maintain the unfunded accrued liability unchanged from year to year.

2. Increases in offsetting FRP and Social Security benefits have also consistently served to reduce the unfunded accrued liability.

* * * * * * * * * * * * *

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

Respectfully submitted,

The Wyatt Company

Allan J. Grosh
Fellow, Society of Actuaries

Jerome J. McKoskey
Fellow, Society of Actuaries

Minneapolis/Saint Paul
November 1, 1981

Table 1

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Actuarial Valuation as of June 30, 1981
(Valuation determinations rounded to nearest $100)

A. BASIC DATA

1. Active Participants	
(a) Total active pre-1963 participants under Faculty Retirement Plan (FRP)	577
(b) Total projected to receive supplemental benefits	
(i) Number	38
(ii) Average annual projected supplement 1/	963
2. Retirees, Survivors and Widows	
(a) Number receiving or entitled to receive benefits	379
(b) Average annual benefit being paid	2,590

B. DETERMINATION OF ANNUAL REQUIREMENTS IN ACCORDANCE WITH CHAPTER 356 (MINNESOTA STATUTES)

1. Accrued Liability as of June 30, 1981	
(a) Active Participants	301,900
(b) Retirees	6,711,100
(c) Widows	549,500
(d) Survivors	577,400
(e) Total	8,139,900
2. Assets as of June 30, 1981	2,073,200
3. Unfunded Accrued Liability as of June 30, 1981 (1(e) less 2)	6,066,700
4. Annual Normal Cost	6,200
5. Annual Requirement to Fund Normal Cost and Amortize the Unfunded Accrued Liability by June 30, 2009	394,000

C. DETERMINATION OF ALTERNATE PROVISIONS

1. Current Disbursement Requirement	981,500
2. Normal Cost Plus Amortization to the Year in Which Youngest Active Participant Projected to Receive Benefits Will Retire (June 30, 1990)	819,100

1/ Per investment earnings, salary scale, and Social Security assumptions summarized in Table 4.

Table 2

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Distribution of Participants as of June 30, 1981

A. ACTIVE PARTICIPANTS (Pre-1963 FRP Participants)

Age Group Last Birthday	Males	Females	Total
45 - 49	19	3	22
50 - 54	109	2	111
55 - 59	161	19	180
60 - 64	164	8	172
65 & Over	87	5	92
Total	540	37	577

B. WIDOWS OF PRE-1956 RETIREES

Age Group Last Birthday	Number (All Females)	Annual Benefit Being Paid
70 - 74	3	$ 9,990
75 - 79	3	9,990
80 - 84	5	16,650
85 - 89	6	19,980
90 & Over	15	49,950
Total	32	$106,560

C. SURVIVORS

Age Group Last Birthday	Number (All Females)	Annual Benefit Being Paid
50 - 54	2	$ 4,638
55 - 59	0	0
60 - 64	1	2,448
65 - 69	7	13,581
70 - 74	10	17,869
75 - 79	4	8,255
80 - 84	4	10,052
85 - 89	1	4,217
Total	29	$ 61,060

D. RETIREES

Age Group Last Birthday	Males	Females	Total	Annual Benefit Being Paid
60 - 64	14	3	17	$ 44,055
65 - 69	39	17	56	104,662
70 - 74	82	13	95	197,902
75 - 79	59	14	73	183,654
80 - 84	32	7	39	126,508
85 - 89	20	9	29	112,872
90 & Over	5	4	9	44,190
Total	251	67	318	$ 813,843

E. RECONCILIATION OF RETIREES/WIDOWS/SURVIVORS

		Number
1.	Number receiving benefits last year	381
2.	Deaths during year with no continuing benefits payable	17
3.	New retirees this year	14
4.	New widow this year	1
5.	Number receiving or entitled to receive benefits this year (1 - 2 + 3 + 4)	379*

* as follows:

Widows	32
Survivors	29
Retirees	318
Total	379

Table 3(a)

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN (PRE-JUNE 30, 1977)

Summary of Principal Provisions of the Supplemental Plan
(provisions in effect for pre-June 30, 1977 retirees)

1. **Eligibility:** Generally applicable to employees who first began participation in the Faculty Retirement Plan prior to 1963, and who retire on or after the June 30, next following the 65th birthday. Special early retirement provisions are available (see below).

2. **Amount of Supplement:** Supplement (annual) is computed as follows:

(a) Determine 2% of final five year average salary for each year of actual service (maximum 30), but not to exceed the following:

(i)	Professor	$8,500
(ii)	Associate Professor	$8,000
(iii)	Assistant Professor or Instructor	$7,500

(b) Convert Faculty Retirement Plan net accumulations to fixed dollar life annuities using fixed annuity factors under FRP. Note that variable accumulations are converted on fixed basis for this purpose. Prior endowment accumulations are treated as annuity in this computation.

(c) Deduct $1,524 (estimate of 1963 Social Security level) from (a).

(d) Determine supplement as equal to (a) less (b) after adjustment for (c).

(Note: Dividends payable for coverage prior to 1963 are not included in (b) above. 1963 and later coverage dividends are included by direct reflection in interest credited on accumulations).

3. **Early Retirement:** (Note: Any reference to age 65 in this description means the June 30th following the 65th birthday).

A member may retire as early as age 62 in which case his FRP accounts are used to purchase an annuity commencing immediately. Supplemental benefits payable are determined as follows:

(a) Determine 2% of final five year average salary for each year of service (projected to age 65 but subject to a maximum of 30) not to exceed the following:

(i)	Professor	$8,500
(ii)	Associate Professor	$8,000
(iii)	Assistant Professor or Instructor	$7,500

(b) Convert Faculty Retirement Plan net accumulations to fixed dollar life annuities payable at early retirement using annuity factors under FRP. Note that variable accumulations are converted on a fixed basis for this purpose.

(c) Deduct $1,524 (estimate of 1963 Social Security level) from (a).

(d) Determine supplemental benefit as equal to (a) less (b) after adjustment for (c).

Table 3(b)

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN (JUNE 30, 1977)

Summary of Principal Provisions of the Supplemental Plan
(provisions in effect for June 30, 1977 and later retirees)

1. **Eligibility:** Generally applicable to employees who first began participation in the Faculty Retirement Plan prior to 1963, and who retire on or after the June 30, next following the 65th birthday. Special early retirement provisions are available (see below).

2. **Amount of Supplement:** Greater of benefit as determined under Supplemental Benefits Plan (Pre-June 30, 1977) or benefit computed as follows:

(a) Determine final five year average salary subject to following maximums for indicated retirement years:

Year	Amount	Year	Amount
1976-77	$37,200	1981-82	$45,300
1977-78	38,700	1982-83	47,100
1978-79	40,300	1983-84	49,000
1979-80	41,900	1984-85	51,000
1980-81	43,600	1985-86	53,000

(b) Determine 1-2/3% of final five year average salary for each year of actual service (maximum 30).

(c) Convert Faculty Retirement Plan net accumulations to fixed dollar life annuities using fixed annuity factors under FRP. Note that variable accumulations are converted on fixed basis for this purpose.

(d) Determine 100% of estimated primary Social Security benefit payable based on continuous coverage from date of University hire (or January 1, 1955, if later), to the date of retirement.

(e) Determine supplement equal to the excess of (b) over the sum of (c) plus (d).

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3. **Early Retirement:**
(Note: Any reference to age 65 in this description means the June 30th next following the 65th birthday).

A member may retire as early as age 62 in which case his FRP accounts are used to purchase an annuity commencing immediately. Supplemental benefits payable are determined as follows:

(a) Determine final five year average salary subject to the following maximums based on the year of early retirement:

Year	Amount	Year	Amount
1978-79	$40,300	1982-83	$47,100
1979-80	41,900	1983-84	49,000
1980-81	43,600	1984-85	51,000
1981-82	45,300	1985-86	53,000

(b) Determine 1-2/3% of final five year average salary for each year of actual service, including projected service to age 65 (maximum 30).

(c) Convert Faculty Retirement Plan net accumulation to fixed dollar annuities using fixed annuity factors under FRP and reflecting early retirement. Note that variable accumulations are converted to the fixed basis for this purpose.

(d) Determine 100% of estimated primary Social Security benefit payable at early retirement based on continuous coverage from date of University hire (or January 1, 1955 if later) to the date of retirement.

(e) Determine supplement equal to the excess of (b) over the sum of (c) plus (d).

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Table 3(c)

UNIVERSITY OF MINNESOTA
FACULTY RETIREMENT PLAN

Summary of Principal Provisions of the Faculty Retirement Plan

1. **Eligibility:** All full time academic staff members (including certain civil service staff members) participating in $20,000 Group Life program, eligible to participate as follows:

Classification	Date of Participation
(a) Associate professor or higher	(i) If hired between October 1 and April 2, on date of hire. (ii) If hired between April 2 and September 30, on October 1 next following date of hire.
(b) Assistant professor or research associate	On October 1 following two years of service. If hired between October 2 and March 1, service is credited back to prior to October 1.
(c) Instructor or research fellow	On October 1 following three years of service. If hired between October 2 and March 1, service is credited back to prior October 1.
(d) Eligible civil service member	(i) If salary less than $26,200, same as (c).* (ii) If salary greater or equal to $26,200 but less than $31,600, same as (b). (iii) If salary greater than or equal to $31,600 same as (a). * Salary ranges are as of July 1, 1981.

2. **Financing:** Staff member contributes 2½% of gross annual salary, with University making contributions of 2½% of the first $5,000 of gross annual sarlay, plus 13% of such gross annual salary in excess of $5,000. Effective in 1973, summer research and training grants have been included for nine-month appointees for the purposes of determining compensation for contributions.

3. **Mandatory Retirement Age:** June 30 following 70th birthday.

4. **Date to Which University Contributions are Made**

For staff member beginning participation on October 2, 1974 and later, contributions are continued until the June 30 next following the 65th birthday; otherwise continued during eligible employment until June 30 next following 68th birthday.

5. **Investment Medium (Pre-Retirement):**

Net contributions (gross less front end load) are accumulated through the medium of insured funding contracts as follows:

(i) Fixed dollar: accumulate at rate of interest declared by insurers, but never less than minimum stipulated. Only future accumulations transferable to variable in pre-retirement period.

(ii) Variable Income: Net contributions are immediately converted to accumulation units which are valued each month. Unit values reflect earnings of separate account less the fixed investment charge stipulated (subject to guaranteed maximum charges). Past and future accumulations are transferable to fixed in pre-retirement period.

(NOTE: Variable contributions cannot exceed 50%, or alternatively 75% of total contributions, including employees' contributions).

6. **Types of Annuities Available at Retirement (Post-Retirement)**

Either guaranteed fixed retirement annuities or non-guaranteed variable annuities are provided (see (7) for conversion). Fixed funds cannot be converted to variable annuity basis at retirement although variable fund conversion to fixed annuity is allowed in which case, accumulation units would be cancelled and transferred to the general assets of the insurer to be applied to provide guaranteed retirement annuity coverage.

7. **Amount of Benefits:**

At retirement, cash value (representing accumulation of contributions under insured funding contracts, net of front end load - presently 2%), or value of accumulation units under variable, is applied to provide "life only" retirement income on the basis of stipulated income conversion factors as listed below. In the determination of the monthly income on the "fixed income" basis, a $200 set-up charge is deducted from the proceeds prior to application of the "fixed income" factor.

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7/1/81 Conversion Basis	Monthly Income for Each $1,000 of Proceeds			
	Fixed Income (11% interest net)		Variable Annuity (4% interest net)	
	Age 65	Age 68	Age 65	Age 68
Male	11.38	12.11	7.18	7.95
Female	10.49	10.99	6.37	6.95

(NOTE: In the past when fixed income conversion factors proved to be too conservative, excess interest credits were being accorded to benefits in payment status via year-end dividends. Certain prior retirees are still being credited with excess interest dividend increases).

8. **Early Retirement:** Participants may retire early, with annuity equivalents payable immediately.

9. **Vesting (termination value):** Immediate 100% vested right in accumulations to date of termination. Disposition is as follows:

(i) If initial participation is December 15, 1972 or earlier, or after December 15, 1972 and has less than five years of participation, entitled to receive total net accumulation to date of termination.

(ii) If initial participation is after December 15, 1972 and has more than five years participation, entitled to sum of:

(a) His own contributions plus interest, and

(b) Paid-up annuity for remainder of total net accumulation, providing for death benefits prior to income commencement of remaining paid-up values.

(NOTE: Variable portion of net accumulation, if $2,000 or more, may be applied to provide variable retirement annuity, or alternatively placed in paid-up status to provide variable retirement annuity at later date. In addition, terminating member can continue retirement annuity accumulations by paying total premiums directly to the insurer).

10. **Death Benefits:**
(a) **Pre-retirement:** Named beneficiary would receive total termination value of retirement annuity as in (9). Optional forms of payment as may be elected by beneficiary must be approved by the University.

(b) <u>Post-retirement:</u>

In accordance with optional form of payment elected, as follows:

(i) life annuity with no post-retirement death benefit.

(ii) life annuity with 60, 120, 180, or 240 monthly payments guaranteed in any event.

(iii) joint and survivor annuity payable until the death of the last survivor of the annuitant and his designated beneficiary, with 120 monthly payments guaranteed payable in any event.

11. <u>Disability:</u>

In the event of total and continuous disability for a period of at least four months, all contributions are waived with future credits being accorded on the basis of a continuation of contribution levels in effect at time of disability.

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Table 4

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Summary of Actuarial Assumptions and Methods

1.	Mortality:	Progressive Annuity Mortality Table set back 0.6 for males and 4.6 years for females.
2.	Turnover:	None assumed.
3.	Expenses:	None assumed. To be met directly. 2% front-end load utilized for purposes of converting FRP accumulations.
4.	Interest Rate:	5% per annum.
5.	Salary Scale:	3½% per annum.
6.	Assumed Retirement Age:	June 30th following 66th birthday.
7.	Actuarial Cost Method:	Individual entry-age-normal cost method, with normal cost determined as a level percentage of future covered payroll.
8.	Amortization of Unfunded Accrued Liability:	As a level dollar amount by June 30, 2009.
9.	Faculty Retirement Plan Accumulations:	Accumulated at 5% per annum assuming a continuation of present contribution percentages on increasing covered payroll (per salary scale assumption). Net accumulations converted to fixed dollar life annuities using following 6¼% factors (monthly income for each $1,000 of proceeds) after 2% front-end load adjustment. Male 8.65 Female 7.64
10.	Social Security:	Based on present law (2nd phase 1981) and 3½% salary scale applicable to current salaries. No wage base increases beyond those specifically prescribed in the Social Security Act of 1977 are projected. No cost of living increases are projected.

Table 5

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Gain and Loss Analysis (Plan Year Ending June 30, 1981)

1.	Unfunded Accrued Liability as of June 30, 1980	$7,303,500
2.	Normal Cost	12,300
3.	Interest at Valuation Rate (5%) on (1) and (2)	365,800
4.	Contributions During Year	
	(a) Approximate "pay-as-you-go" payments to retirees	981,500
	(b) Supplemental contributions	379,400
	(c) Total effective contributions ((a) + (b))	1,360,900
5.	Interest at Valuation Rate (5%) on 4(a) and 4(b)	29,300
6.	Expected Unfunded Accrued Liability as of June 30, 1981 (1 + 2 + 3 - 4 - 5)	6,291,400
7.	Actual Unfunded Accrued Liability as of June 30, 1981	6,066,700
8.	Decrease During Year (6 - 7)	224,700
9.	Gain and Loss Analysis	
	(a) Gain due to increase to offsetting Social Security benefits	172,400
	(b) Gain due to supplemental plan asset earnings in excess of 5%	90,700
	(c) Loss due to early retirement subsidy for retirement prior to 65 *	121,200
	(d) Other actuarial gains **	82,800
	(e) Net gain ((a) + (b) - (c) + (d))	224,700

* It is our understanding that this loss will be offset by annual reimbursements by individual departments, representing the early retirement subsidy paid to each early retiree.

** Due primarily to investment income in excess of 5% pertaining to offsetting FRP benefits.

Table 6

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Comparison of 1980 and 1981 Valuation Results

		1980	1981
1.	Active Participants		
	(a) Total active pre-1963 participants under FRP	615	577
	(b) Total projected to receive supplemental benefits		
	(i) Number	71	38
	(ii) Average annual supplemental benefit 1/	1,092	963
2.	Retirees, Survivors and Widows		
	(a) Number - Retirees (including deferred)	320	318
	- Survivors	27	29
	- Widows	34	32
	- Total	381	379
	(b) Average annual benefit being paid or payable	2,688	2,590
3.	Accrued Liability on Valuation Date		
	(a) Active participants	660,100	301,900
	(b) Retirees, survivors and widows	8,165,600	7,838,000
	(c) Total	8,825,700	8,139,900
4.	Assets on Valuation Date	1,522,200	2,073,200
5.	Unfunded Accrued Liability	7,303,500	6,066,700
6.	Annual Normal Cost	12,300	6,200
7.	Chapter 356 Minimum Provisions	471,700	394,000
8.	Alternate Provisions		
	(a) Current Disbursement	1,020,400	981,500
	(b) Normal cost plus amortization to year in which youngest active participant projected to receive benefits will retire (1990 for both valuations).	913,100	819,100

1/ Per actuarial assumptions regarding earnings on FRP account balances, salary increases and increases in Social Security. See Table 4 for summary of actuarial assumptions.

MEMORANDUM TO: Legislative Commission on Pensions and Retirement

FROM: James R. Bordewick, F.S.A.

RE: June 30, 1981 Actuarial Valuation of the Minnesota Faculty Supplemental Benefits Plan

DATE: November 20, 1981

The purpose of this memorandum is to review and discuss the results of the June 30, 1981 Actuarial Valuation of the Minnesota Faculty Supplemental Benefits Plan. The Actuarial Valuation was prepared by Mr. Alan J. Grosh and Mr. Jerome J. McKoskey of the actuarial firm of The Wyatt Company.

The Actuarial Valuation was conducted using the Entry Age Normal Cost actuarial method, interest at 5% and a salary increase assumption of 3½% which are in accordance with Minnesota Statutes, Chapter 356.

There were no changes in this Actuarial Valuation for actuarial assumptions or valuation methods. In addition, there were no changes in the provisions of the plan since the last Actuarial Valuation.

This plan covers a group of employees who became participants in the Faculty Retirement Plan prior to 1963. Therefore, it is a closed group.

The benefits provided by the plan are supplemental to the benefits provided from the Faculty Retirement Plan and Social Security, In other words, a supplemental benefit would be paid if the benefits from the Faculty Retirement Plan and Social Security were less than a target benefit of 1.6667% of final average salary per year of service (maximum 30 years).

SUMMARY OF ACTUARIAL VALUATION RESULTS

1. Membership	6-30-80	6-30-81	Increase
Active Members	615	577	-38
Active Members Projected for Supplement	71	38	-33
Deferred Annuitants	1	0	- 1
Retired Members	319	318	- 1
Widows	34	32	- 2
Survivors	27	29	2
2. Annuities In Force: Annual Basis	$1,020,390	$ 981,463	$-38,927

SUMMARY OF ACTUARIAL VALUATION RESULTS

3. Actuarial Balance Sheet:

	6-30-80	6-30-81	Increase
Accrued Liabilities			
Annuities In Force	$8,130,100	$7,838,000	-$ 292,100
Deferred Annuities	35,500	-	- 35,500
Active Members	660,100	301,900	- 358,200
	$8,825,700	$8,139,900	-$ 685,800
Assets	$1,522,200	$2,073,200	$ 551,000
Unfunded Accrued Liability	$7,303,500	$6,066,700	-$1,236,800

4. Analysis of Increase in Unfunded Accrued Liability

The Unfunded Accrued Liability decreased by $1,236,800 from June 30, 1980 to June 30, 1981. The items making up this decrease are shown below:

Actuarial Experience		
Interest	$ 90,700	Gain
Social Security Increases	172,400	Gain
Early Retirement	121,200	Loss
Other*	82,800	Gain
	$ 224,700	Gain
Contribution Sufficiency	$1,012,100	
	$1,236,800	

* This is the net actuarial gain from sources such as mortality, turnover of employment, and the like. The majority of this gain is from interest earnings on the Faculty Retirement Plan in excess of 5%. Excess earnings from this source increase the projected retirement benefit under the Faculty Retirement Plan and, accordingly, decrease the supplemental benefit.

5. Contribution Levels

Based on the Actuarial Valuation results, the contribution required to provide for the normal cost and amortized the Unfunded Accrued Liability by June 30, 2009 is $394,000 as of June 30, 1981. This compares with a contribution requirement of $471,700 a year ago. The annual contribution requirement has decreased by $77,700 from a year ago.

DISCUSSION OF ACTUARIAL VALUATION RESULTS

1. The total number of active members decreased from a year ago. This is expected with a closed group as there are no new members.

DISCUSSION OF ACTUARIAL VALUATION RESULTS

2. The number of active members projected for a supplemental benefit decreased by 33 from a year ago. The main reasons for this decrease were the increases in projected Social Security and the projected benefits from the Faculty Retirement Plan.

3. The Unfunded Accrued Liability has decreased by $4,788,400 since June 30, 1977. This decrease has been a result of consistent actuarial gains during the period and contributions in excess of the amount to keep the Unfunded Accrued Liability from increasing.

   It is expected that actuarial gains will result in the future and based on a contribution in excess of current benefit payments, the Unfunded Accrued Liability will continue to decrease.

4. Actuarial losses will continue from the early retirement provision of the plan since no advance funding for this provision is included. This loss is apparently offset by additional contributions to the plan to provide for these benefit payments.

5. The funding ratio - the ratio of assets of the plan to the Accrued Liabilities of the plan - was 25.5% as of June 30, 1981. This compares with a ratio of 17.2% a year ago. Assets still do not cover the Accrued Liabilities for members in a payment status.

6. As mentioned in previous valuation memoranda, the statutory funding method does not appear appropriate for this plan. Contributions since June 30, 1977 have been $2,601,300 in excess of statutory requirements.

   Assuming a level contribution of $1,360,000 (which approximates last years' contribution), the Unfunded Accrued Liability will be amortized in about five years.

CONCLUSION

The Actuarial Valuation complies with the requirements of Minnesota Statutes, Chapter 356. It is expected that the plan will reach a fully funded position at least 23 years prior to the required amortization date of June 30, 2009.

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