

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Actuarial Valuation
as of July 1, 1995

June 11, 1996

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TABLE OF CONTENTS

	<u>Page</u>
PURPOSE AND SUMMARY	1
EMPLOYEE AND FINANCIAL DATA	2
PLAN VALUED	2
ACTUARIAL ASSUMPTIONS AND METHODS	2
VALUATION RESULTS	4
GAIN AND LOSS ANALYSIS	4
COMPARISON OF 1994 AND 1995 VALUATION RESULTS	4

TABLES

Table 1	Actuarial Valuation as of July 1, 1995	6
Table 2	Distribution of Participants as of July 1, 1995	8
Table 3(a)	Summary of Principal Provisions of the Supplemental Plan (provisions in effect for pre-June 30, 1977 retirees)	11
Table 3(b)	Summary of Principal Provisions of the Supplemental Plan (provisions in effect for June 30, 1977 and later retirees)	13
Table 3(c)	Summary of Principal Provisions of the Faculty Retirement Plan	20
Table 4	Summary of Actuarial Assumptions and Methods	24
Table 5	Gain and Loss Analysis	25
Table 6	Comparison of 1994 and 1995 Valuation Results	26



UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Actuarial Valuation as of July 1, 1995

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 July 1, 1995, in accordance with Chapter 356 of the Minnesota Statutes. The valuation establishes a cost provision of \$622,100 for the year ending June 30, 1996.

The valuation has been based on employee census data as of July 1, 1995 and plan provisions in effect as of July 1, 1995. The plan is composed of two distinct groups:

- Employees who began participation in the Faculty Retirement Plan prior to 1963. This is essentially a closed group of participants; namely, existing retirees and a diminishing group of active participants soon to retire.
- Female participants in the Faculty Retirement Plan for whom contributions to FRP were made at any time prior to July 1, 1982. Some of these participants are already retired; however, a large number are still active. This is also a closed group.

In summary, the valuation shows a Chapter 356 requirement of \$622,100. Contributions to the plan are made from central resources and from self-supporting departments. In order to satisfy Chapter 356, the total contribution from all sources, plus interest at 5% to June 30, 1996, must be at least \$622,100.

The estimated annual benefits payable to retirees as of the valuation date are \$1,771,007. This amount could be transferred from the plan asset account to the benefit payment account. This is an estimate of the benefits to be paid during the year. The accounts would need to be adjusted prior to June 30, 1996 for any differences in the amount transferred and the actual benefit payments. The net amount transferred from the plan asset account to the benefit payment account during the year should be the exact amount of the benefits paid during the year.



EMPLOYEE AND FINANCIAL DATA

Table 2 summarizes the data used for the valuation. Data covering 84 active pre-1963 participants under the Faculty Retirement Plan was provided to us. Based on current account balances and the actuarial assumptions set forth below, it is projected that no member of this group will receive benefits from the Supplemental Benefits Plan. In addition, we were furnished a listing for the 524 retirees, survivors and widows presently receiving or eligible to receive benefits under the plan. We also received a summary by age grouping of account balances under the Faculty Retirement Plan for female participants at July 1, 1995. Assets with a book value of \$10,883,500 as of July 1, 1995 were reported to us by the University. We have used this for valuation assets.

PLAN VALUED

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

We project that no active employee will receive benefits from the Supplemental Benefits Plan. Therefore, the liabilities reflected in this report are for inactive participants and female participants subject to unisex adjustment.

ACTUARIAL ASSUMPTIONS AND METHODS

Table 4 is a summary of the actuarial assumptions and methods used in this valuation. These assumptions and methods conform to the 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 is 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. The unfunded accrued liability is then determined by subtracting the assets on the valuation date from the accrued liability.

Minnesota Statutes require funding the annual normal cost plus the amortization of unfunded accrued liability as of the first valuation made after June 1, 1979 by the end of the fiscal year occurring in 2009. The amortization of any additional unfunded accrued liability generated by benefit improvements is determined by first computing the amortization over 30 years. The amount of this amortization is added to the amortization of the June 1, 1979 amount and a determination is made of the fiscal year when this combined payment will have fully funded the total unfunded accrued liability. Due to the increases in benefits which have occurred since 1979, all unfunded accrued liabilities are being amortized by the end of the fiscal year occurring in 2018.

Actuarial assumptions are identical to those used in the prior year. In order to determine projected benefits appropriately, advance assumptions are made in regard to future projections under FRP; 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 are based on an assumed interest rate of 6.65% as of July 1, 1995) applied to determine offsetting FRP benefits are more favorable than those used in 1975 (which are based on an assumed interest rate of 6.25%). Use 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 3-1/2%/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 3-1/2% 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.



It should be noted that any interest earnings in excess of the assumed rate of 5% will serve to increase the liability for the account balances for female participants which are subject to unisex adjustment.

VALUATION RESULTS

Table 1 sets forth the results of our valuation. Section A of the table sets forth basic data items for active and retired 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. As of July 1, 1995, the annual cost provision is \$592,500. Interest accrues at 5% until date of payment. As of June 30, 1996, the annual cost provision is \$622,100.

GAIN AND LOSS ANALYSIS

Table 5 reconciles the unfunded accrued liability over the past year and summarizes the gain and loss analysis. There was an increase of \$208,800 in the July 1, 1995 unfunded accrued liability when compared to that expected. This increase resulted from a loss on female account balances subject to unisex adjustment and a loss on inactives due to mortality experience, offset by earnings in excess of 5% on plan assets.

COMPARISON OF 1994 AND 1995 VALUATION RESULTS

Table 6 sets forth a comparison of the principal values underlying the 1994 and 1995 valuations. The unfunded accrued liability increased from \$6,714,500 to \$7,251,500.

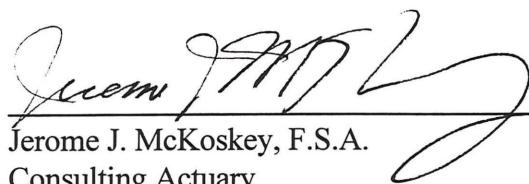
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If in connection with this report, any further investigations are indicated, we will be happy to proceed as directed.

Respectfully submitted,

WATSON WYATT WORLDWIDE



Jerome J. McKoskey, F.S.A.
Consulting Actuary



Randall G. Tuma
Consultant

Minneapolis/St. Paul
June 11, 1996

Table 1

**UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN**

Actuarial Valuation as of July 1, 1995
(Valuation determinations rounded to nearest \$100)

A. BASIC DATA

1.	Active Pre-1963 Participants	
(a)	Total active pre-1963 participants under Faculty Retirement Plan (FRP)	84
(b)	Total projected to receive supplemental benefits	
(i)	Number	0
(ii)	Average annual projected supplement ¹	0
2.	Estimated Account Balance for Female Participants at July 1, 1995	44,501,906
3.	Retirees, Survivors and Widows	
(a)	Number receiving or entitled to receive benefits	524
(b)	Average annual benefit being paid	3,380

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

1.	Accrued Liability as of July 1, 1995	
(a)	Actives	0
(b)	Retirees	9,281,400
(c)	Widows	43,200
(d)	Survivors	3,630,400
(e)	Female unisex increase 7/1/82	5,180,000
(f)	Total	18,135,000
2.	Assets as of July 1, 1995	10,883,500
3.	Unfunded Accrued Liability as of July 1, 1995 (1(f) less 2)	7,251,500
4.	Annual Normal Cost	80,500

Page 1 of 2



Table 1 (cont.)

5.	Annual Requirement to Fund Normal Cost and Amortize the Unfunded Accrued Liability by June 30, 2018	
(a)	Amortization of Unfunded Accrued Liability by June 30, 2018	512,000
(b)	Normal cost	80,500
(c)	Total as of July 1, 1995	592,500
(d)	Total as of June 30, 1996	622,100
6.	Annual Rate of Benefit Payment	1,771,007

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 July 1, 1995

A. ACTIVE PARTICIPANTS (Pre-1963 FRP Participants)

<u>Age Group</u> <u>Last Birthday</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
60 - 64	19	1	20
65 & Over	64	0	64
Total	83	1	84

B. WIDOWS OF PRE-1956 RETIREES

<u>Age Group</u> <u>Last Birthday</u>	<u>Number (All Females)</u>	<u>Annual Benefit Being Paid</u>
85 - 89	2	\$9,808
90 & Over	-	-
Total	2	\$9,808

C. SURVIVORS

<u>Age Group</u> <u>Last Birthday</u>	<u>Number (All Females)</u>	<u>Annual Benefit Being Paid</u>
55 - 59	1	\$3,996
60 - 64	1	789
65 - 69	6	13,130
70 - 74	17	49,210
75 - 79	21	66,722
80 - 84	34	174,491
85 - 89	23	162,366
90 & over	9	62,658
Total	112	\$533,362



Table 2 (cont.)

D. RETIREES

<u>Age Group</u> <u>Last Birthday</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Annual Benefit</u> <u>Being Paid</u>
50 - 54	-	-	-	\$ -
55 - 59	-	1	1	338
60 - 64	-	4	4	2,392
65 - 69	6	21	27	19,053
70 - 74	40	40	80	94,078
75 - 79	91	28	119	241,451
80 - 84	79	32	111	390,076
85 - 89	34	6	40	252,648
90 & Over	20	8	28	227,801
Total	270	140	410	\$1,227,837

E. RECONCILIATION OF RETIREES/WIDOWS/SURVIVORS

	<u>Number</u>
1. Number receiving benefits last year	540
2. Deaths during year with no continuing benefits payable	18
3. New retirees this year	2
4. Number receiving or entitled to receive benefits this year (1 - 2 + 3)	524 *

*	Widows	2
	Survivors	112
	Retirees	410
	Total	524



Table 2 (cont.)

F. ESTIMATED FACULTY RETIREMENT PLAN ACCOUNT BALANCES FOR FEMALE PARTICIPANTS AS OF JUNE 30, 1995 ATTRIBUTABLE TO CONTRIBUTIONS MADE PRIOR TO JULY 1, 1982

Age	Number of Participants	Total Account Balance
37	1	\$ 4,681
39	2	18,846
41	7	78,752
42	6	76,253
43	8	149,355
44	17	189,970
45	25	787,144
46	25	555,352
47	25	589,050
48	33	1,009,177
49	28	1,041,057
50	30	1,364,684
51	33	1,675,074
52	37	1,645,045
53	30	1,799,910
54	40	2,871,531
55	29	2,314,309
56	28	2,390,968
57	21	1,813,823
58	26	3,028,300
59	30	3,050,313
60	27	2,153,813
61	18	1,988,248
62	17	1,789,864
63	21	1,942,483
64	15	1,276,242
65	17	1,423,563
66	7	228,357
67	12	1,088,208
68	12	1,107,984
69	13	1,592,011
70	11	1,177,219
71	8	628,198
72	11	940,154
73	5	437,655
74	3	106,093
75	2	62,714
77	1	105,506
	681	\$44,501,906



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).

Page 1 of 2



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 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 Supplemental:

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:

<u>Year</u>	<u>Amount</u>	<u>Year</u>	<u>Amount</u>	<u>Year</u>	<u>Amount</u>
1976-77	\$37,200	1983-84	\$49,000	1990-91	\$64,500
1977-78	38,700	1984-85	51,000	1991-92	67,000
1978-79	40,300	1985-86	53,000	1992-93	69,700
1979-80	41,900	1986-87	55,100	1993-94	72,500
1980-81	43,600	1987-88	57,300	1994-95	75,400
1981-82	45,300	1988-89	59,600	1995-96	78,400
1982-83	47,100	1989-90	62,000		

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



3. Early Retirement:

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

- (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).

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:

<u>Year</u>	<u>Amount</u>	<u>Year</u>	<u>Amount</u>	<u>Year</u>	<u>Amount</u>
1978-79	\$40,300	1984-85	\$51,000	1990-91	\$64,500
1979-80	41,900	1985-86	53,000	1991-92	67,000
1980-81	43,600	1986-87	55,100	1992-93	69,700
1981-82	45,300	1987-88	57,300	1993-94	72,500
1982-83	47,100	1988-89	59,600	1994-95	75,400
1983-84	49,000	1989-90	62,000	1995-96	78,400

- (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.





4. Unisex Adjustment Policy
Established July 1, 1982

(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).

Periodic retirement benefits paid pursuant to the Faculty Retirement Plan shall be equalized for similarly situated males and females effective July 1, 1982. To the extent that benefits in addition to those which are available from the annuity contracts shall be required, such amounts shall be paid through the University of Minnesota Supplemental Benefits Plan.

The equalization shall be accomplished in the following manner:

For Individuals Not Yet Retired:

1. All contributions to the faculty retirement plan after the effective date shall be applied to purchase annuities under sex-neutral (unisex) rates.
2. Total benefits (annuities plus supplement) from contributions to the faculty retirement plan which are made prior to the effective date shall be determined by using male mortality rates for all University employees and female mortality rates for all joint annuitants under the joint and survivor option.

For Individuals Already Retired:

The amount of the total periodic benefit (annuity plus supplement) being paid shall be recalculated using male mortality rates for all University employees and female mortality rates for all joint annuitants under the joint and survivor option. In those instances where the application of such mortality rates provides for increased benefits, such increased benefits shall be paid through the University supplement on a retroactive and prospective basis.



5. Post-Retirement Benefit Increases Established July 1, 1981 and July 1, 1984:

Increases granted to certain retired faculty in the amount of \$600 for a full share and \$480 for an 80% share with full shares being paid to those retirees who are receiving single life annuities and 80% shares paid to retirees, or surviving spouses of retirees, who elected the survivorship option. Those retired faculty eligible to receive the increase shall be determined as follows:

1. Exclude Vice Presidents, widows of Vice Presidents, and those with Dean status for retirement purposes.
2. Include only pre-1963 participants, who retired on or before June 30, 1980 (June 30, 1983 for July 1, 1984 increase) and who are not specifically excluded, whether or not they are currently receiving a Supplement payment. 1969 and later surviving spouses currently receiving a Supplement are considered participants.

6. Post-Retirement Benefit Increase Established July 1, 1986:

Benefit increases were granted to pre-1963 participants who retired not later than July 1, 1985, excluding those Vice Presidents and Deans who qualified for special benefits, but including surviving spouses of retirees who elected the survivorship option. The amount of increase was \$13.00 (single life annuities) or \$10.40 (joint and survivor or surviving spouse annuities) per year for each "point," where one point was awarded for each year of service up to 30 years and 1-1/2 points were awarded for each year since retirement. The value of a point was determined by the amount of funds available in the department budget for increases.

7. Cost of Living Increases Granted to Widows of Pre-1956 Retirees:

<u>Effective Date</u>	<u>Revised Annual Benefit</u>
July 1, 1981	\$4,020 (formerly \$3,330)
July 1, 1984	4,176
January 1, 1986	4,464
January 1, 1988	4,704



8. Post-Retirement Benefit Increase Established July 1, 1988:

(a) Benefit increases were granted to pre-1963 participants who retired not later than July 1, 1987, excluding those Vice Presidents and Deans who qualified for special benefits, but including surviving spouses of retirees who elected the survivorship option. The amount of increase was \$8.00 (single life annuities) or \$6.40 (joint and survivor or surviving spouse annuities) per year for each “point,” where one point was awarded for each year of service up to 30 years and 1-1/2 points were awarded for each year since retirement. The value of a point was determined by the amount of funds available in the department budget for increases.

(b) A supplemental benefit increase was granted to certain retired faculty in the amount of \$600 annually. Those retired faculty eligible to receive the increase were determined as follows:

1. Exclude Vice Presidents, Widows of Vice Presidents, and those with Dean status for retirement purposes.
2. Include only pre-1963 participants, who retired on or before June 30, 1987 and who are not specifically excluded, whether or not they are currently receiving a Supplement payment. 1969 and later surviving spouses currently receiving a Supplement are considered participants.

9. Post-Retirement Benefit Increase Established January 1, 1990

Benefit increases were granted to pre-1963 participants who retired not later than June 30, 1988, excluding those Vice Presidents who qualified for special benefits, but including surviving spouses of retirees who elected the survivorship option. The amount of increase was \$20.00 (single life annuities) or \$16.00 (joint and survivor or surviving spouse annuities) per year for each “point,” where one point was awarded for each year of service up to 30 years and 3 points were awarded for each year since retirement. The amount of increase was limited such that the combination of available Faculty Retirement Plan annuities plus primary Social Security plus the supplement would not exceed \$30,000.



10. Post-Retirement Benefit
Increase Established
July 1, 1993

Benefit increases were granted to pre-10/1/63 participants who retired not later than June 30, 1992, excluding those Vice Presidents who qualified for special benefits, but including surviving spouses of retirees who elected the survivorship option. The amount of the increase was the greater of \$400 or 5% of the initial base. The initial base was the sum of the annual amounts of the Minnesota Mutual Fixed Annuity (not including the Additional Annuity), the University Supplements and the Unisex Supplements. The amount of increase was limited such that the combination of available Faculty Retirement Plan annuities plus primary Social Security plus the supplement would not exceed \$20,000 times years of service (limited to 30) divided by 30.

11. Post-Retirement Benefit
Increase Established
July 1, 1994

Benefit increases were granted to pre-10/1/63 participants who retired no later than June 30, 1993, excluding those Vice Presidents who qualified for special benefits, but including surviving spouses of retirees who elected the survivorship option. The amount of the increase was the amount needed to bring the participant's initial base (which includes University Supplement, Unisex Supplement, Estimated Social Security based upon the Primary Insurance Amount (PIA) and a life annuity calculated from the Accumulated Cash Value of monies with Minnesota Mutual at the time of retirement) up to a minimum annual amount. The minimum annual amount is based on a floor level, which was \$20,500 for the July 1, 1994 increase. For participants with at least 30 years of service, the minimum annual amount is equal to the floor level. For participants that have less than 30 years of service, the minimum annual amount is calculated by subtracting the participant's estimated Social Security (PIA) from the floor level, dividing the balance by 30 and multiplying it by years of service (up to 30), then adding back the estimated Social Security (PIA). The floor level will be adjusted annually to reflect the cost-of-living increase applied to Social Security the previous January. However, the floor level will not be increased beyond \$30,000.



12. Post-Retirement Benefit Increase Established July 1, 1995

Benefit increases were granted to pre-10/1/63 participants who retired no later than June 30, 1994, excluding those Vice Presidents who qualified for special benefits, but including surviving spouses of retirees who elected the survivorship option.

Each July 1, eligible participants will receive a benefit increase equal to the lesser of the following amounts:

- (a) The difference between the current year's COLA amount and the prior year's COLA amount less the difference between the current year's Primary Social Security amount and the prior year's Primary Social Security amount. The resulting amount is reduced proportionally for service at retirement less than 30 years. (The COLA amount was set at \$20,500 on July 1, 1994, and is increased each July 1 by the cost-of-living increase applied to Social Security the previous January.)
- (b) \$30,000, reduced proportionally for service at retirement less than 30 years, less the sum of the University Supplement (converted to a life annuity, if applicable), the Unisex Supplement, the Primary Social Security amount and the Estimated Life Annuity (calculated based on the Accumulated Cash Value of monies with Minnesota Mutual at the time of retirement).

If the retiree elected the Joint and Survivor payment option, the increase is reduced 20%.



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:

	<u>Classification</u>	<u>Date of Participation</u>
(a)	Associate professor or higher	Date of hire.
(b)	Assistant professor or research associate	Immediately following two years of service.
(c)	Instructor or research fellow	Immediately following three years of service.
(d)	Professional and Administrative	<ul style="list-style-type: none">(i) If salary less than \$42,303, same as (c).*(ii) If salary greater or equal to \$42,303 but less than \$50,108, same as (b).(iii) If salary greater than or equal to \$50,108, same as (a).

* Salary breakpoints as of July 1, 1990.

Page 1 of 4



2. Financing:

Staff member contributes 2-1/2% of gross annual salary, with University making contributions of 13% of such gross annual salary. Effective in 1973, summer research and training grants have been included for nine-month appointees for the purposes of determining compensation for contributions.

3. Date to Which University Contributions are Made:

Contributions are continued until date of retirement.

4. Investment Vehicles (Pre-Retirement):

Contributions are accumulated through insured annuity contracts and/or mutual funds, as follows:

(a) Annuity contracts

- (i) Fixed dollar: accumulate at rate of interest declared by insurers, but never less than minimum stipulated.
- (ii) Variable Income: Net contributions are immediately converted to accumulation units which are valued daily. 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.

(b) Mutual funds: Participants may invest in one or more of a variety of mutual funds offered by the Vanguard Group, Fidelity Investments or Benham.



5. Forms of Payment Available at Retirement:

Various forms of payment are available:

- (a) Non-systematic withdrawal: Non-systematic withdrawals of a specific dollar amount or a percentage of the account balance may be made at any time.
- (b) Systematic withdrawal: Systematic withdrawals of a flat dollar amount, a percentage of the account balance, a specific number of accumulated units/shares or interest only may be made monthly, quarterly, semi-annually or annually.
- (c) Annuities: Either fixed annuities, or a combination of fixed and variable annuities may be purchased. Joint and survivor or certain and life options are available.
- (d) Rollover: Rollover into an Individual Retirement Account.

6. Amount of Annuity Benefits:

At retirement, the cash value (representing accumulation of contributions under fixed dollar contracts or value of accumulation units under variable contracts) is applied to provide "life only" retirement income on the basis of stipulated income conversion factors as listed below. Account balances resulting from contributions made prior to July 1, 1982 will be applied on a male employee and female joint annuitant basis. Account balances resulting from contributions made subsequent to July 1, 1982 will be applied on a unisex basis.

	<u>Monthly Income for Each \$1,000 of Proceeds</u>			
	<u>Fixed Income</u>		<u>Variable Annuity</u>	
<u>7/1/95 Conversion Basis</u>	(6.65% interest net)		(4% interest net)	
Pre-7/1/82 contributions:	<u>Age 65</u>	<u>Age 68</u>	<u>Age 65</u>	<u>Age 68</u>
Male	8.66	9.41	7.08	7.83
Female	7.73	8.25	6.13	6.66
Contributions 7/1/82 and later:				
Unisex:	7.89	8.45	6.47	7.08

Page 3 of 4



(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).

7. **Early Retirement:** Participants may retire early, with annuity equivalents payable immediately.
8. **Vesting (termination value):** Immediate 100% vested right in accumulations to date of termination.
9. **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) **Post-retirement:** 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 100% survivor annuity with 120 monthly payments guaranteed payable in any event.
 - (iv) joint and 66-2/3% to survivor annuity with 120 monthly payments guaranteed payable in any event.
10. **Disability:** 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.



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.
4. Interest Rate: 5% per annum.
5. Salary Scale: 3-1/2% per annum.
6. Cost of Living Adjustments: The floor benefit and PIA amount are assumed to increase at 2-1/2% per annum.
7. Assumed Retirement Age: Age 66.
8. Actuarial Cost Method: Individual entry-age-normal cost method, with normal cost determined as a level percentage of future covered payroll.
9. Amortization of Unfunded Accrued Liability: As a level dollar amount by June 30, 2018.
10. Faculty Retirement Plan Accumulations: Accumulated at 5% per annum assuming continuation of present contribution percentages on increasing covered payroll (per salary scale assumption). Net accumulations converted to fixed dollar life annuities using following 6 1/4% factors (monthly income for each \$1,000 of proceeds).

Male	8.65
Female	7.64
Unisex	8.55
11. Social Security Benefit: Based on present law and 3-1/2% salary scale applicable to current salaries.



Table 5

**UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN**

Gain and Loss Analysis

1.	Unfunded Accrued Liability as of July 1, 1994	\$6,714,500
2.	Normal Cost	74,600
3.	Interest at Valuation Rate (5%) on (1) and (2)	339,500
4.	Contributions During Year	554,700
5.	Interest at Valuation Rate (5%) on 4	23,900
6.	Increase in Unfunded Accrued Liability Due to Benefit Improvements	492,700
7.	Expected Unfunded Accrued Liability as of July 1, 1995 (1 + 2 + 3 - 4 - 5 + 6)	7,042,700
8.	Actual Unfunded Accrued Liability as of July 1, 1995	7,251,500
9.	Actuarial Gain (Loss) During Year (7 - 8)	(208,800)
10.	Gain and Loss Analysis	
(a)	Gain due to supplemental plan asset earnings in excess of 5%	297,300
(b)	Net loss due to other actuarial gains and losses	(506,100)
(d)	Net actuarial loss ((a) + (b) + (c))	(208,800)

Table 6

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Comparison of 1994 and 1995 Valuation Results

	<u>1994</u>	<u>1995</u>
1. Active Pre-1963 Participants		
(a) Total active pre-1963 participants under FRP	102	84
(b) Total projected to receive supplemental benefits	0	0
2. Estimated account balance for female participants with account balance prior to July 1, 1982	39,583,595	44,501,906
3. Retirees, Survivors and Widows		
(a) Number		
- Retirees	426	410
- Survivors	112	112
- Widows	2	2
- Total	540	524
(b) Average annual benefit being paid or payable	3,383	3,380
4. Accrued Liability on Valuation Date		
(a) Active participants	0	0
(b) Retirees, survivors and widows	13,402,800	12,955,000
(c) Female participants with account balances prior to July 1, 1982	4,538,500	5,180,000
(d) Total	17,941,300	18,135,000
5. Assets on Valuation Date	11,226,800	10,883,500
6. Unfunded Accrued Liability	6,714,500	7,251,500



Table 6 (cont.)

		<u>1994</u>	<u>1995</u>
7.	Annual Normal Cost	74,600	80,500
8.	Chapter 356 Minimum Provision		
	(a) Beginning of year	528,300	592,500
	(b) End of year	554,700	622,100
9.	Estimated Benefit Payments	1,826,632	1,771,007

