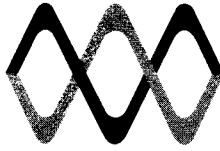


**Bloomington Fire Department Relief Association**  
***ACTUARIAL VALUATION REPORT***

January 1, 1998

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**MILLIMAN & ROBERTSON, INC.**

Actuaries & Consultants

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January 26, 1998

Bloomington Fire Department Relief Association  
10 West 95th Street  
Bloomington, MN 55420

*re: Bloomington Fire Department Relief Association Pension Fund*

Board Members:

We have performed an actuarial valuation of the Bloomington Fire Department Relief Association Pension Fund as of January 1, 1998.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Bloomington Fire Department Relief Association.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356, Minnesota Statutes, and the requirements of the Standards of Actuarial Work.

Respectfully submitted,

Martha J.D. Medley, A.S.A., E.A., M.A.A.A.  
Consulting Actuary

Enclosure

**Bloomington Fire Department Relief Association**  
***Table of Contents***

**REPORT HIGHLIGHTS**

**COMMENTARY**

Purpose.....	2
Report Highlights.....	2
Asset Information.....	2
Actuarial Balance Sheet.....	2
Actuarial Cost Method.....	3
Sources of Actuarial Gains and Losses .....	3
Contribution Sufficiency.....	3
GASB Disclosure Information.....	3
Changes in Actuarial Assumptions.....	4
Changes in Plan Provisions.....	4

**ASSET INFORMATION**

Table 1 - Accounting Balance Sheet.....	5
Table 2 - Changes in Assets Available for Benefits .....	6

**MEMBERSHIP DATA**

Table 3A - Active Members .....	7
Table 3B - Deferred Vested Members.....	7
Table 4 - Service Retirements.....	8
Table 5 - Disability Retirements.....	8
Table 6 - Survivors.....	8
Table 7 - Reconciliation of Members .....	9

**FUNDING STATUS**

Table 8 - Actuarial Balance Sheet .....	10
Table 9 - Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate .....	11
Table 10 - Changes in Unfunded Actuarial Accrued Liability (UAAL).....	12
Table 11 - Determination of Contribution Sufficiency .....	13

**ACTUARIAL ASSUMPTIONS**

Table 12 - Summary of Actuarial Assumptions and Methods .....	14
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**Bloomington Fire Department Relief Association**  
***Table of Contents***

**PLAN PROVISIONS**

Table 13 - Summary of Plan Provisions..... 17

**GASB DISCLOSURE**

Table 14 - Schedule of Funding Progress..... 19  
Table 15 - Schedule of Employer Contributions..... 20

**PARTICIPANT BENEFITS**

Table 16 - Schedule of Projected Retirement Benefits for Active Participants..... A-1  
Table 17 - Schedule of Retirement Benefits for Inactive Participants.....B-1

**Bloomington Fire Department Association**  
**Report Highlights**

	January 1, 1997	January 1, 1998
	Valuation	Valuation
<hr/>		
<b>A. CONTRIBUTIONS % OF PAYROLL (Table 11)</b>		
1. Statutory Contributions - Chapter 354A	1.80%	6.44%
2. Required Contributions - Chapter 356	1.80%	(6.35%)
3. Sufficiency / (Deficiency)	0.00%	12.79%
<hr/>		
<b>B. FUNDING RATIOS</b>		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$ 74,763,001	\$ 87,829,787
b. Current Benefit Obligations (Table 8)	56,424,700	60,685,005
c. Funding Ratio	132.50%	144.73%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$ 74,763,001	\$ 87,829,787
b. Actuarial Accrued Liability (Table 9)	58,807,600	59,322,179
c. Funding Ratio	127.13%	148.06%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$ 95,119,800	\$ 111,712,442
b. Current and Expected Future Benefit Obligations	79,164,400	83,204,834
c. Funding Ratio	120.15%	134.26%
<hr/>		
<b>C. PLAN PARTICIPANTS</b>		
1. Active Members		
a. Number (Table 3)	137	144
b. Projected Annual Earnings	\$ 6,620,388	\$ 7,122,960
c. Average Annual Earnings (Actual dollars)	\$ 48,324	\$ 49,465
d. Average Age	36.5	36.5
e. Average Service	9.0	9.0
f. Additional Members on Leave of Absence	-	-
2. Others		
a. Service Retirements (Table 4)	93	95
b. Disability Retirements (Table 5)	7	5
c. Survivors (Table 6)	12	12
d. Deferred Retirements (Table 7)	9	9
e. Terminated Other Non-Vested (Table 7)	-	-
f. Total	121	121

**Bloomington Fire Department Relief Association**  
***Commentary***

***Purpose***

The purpose of this valuation is to determine the financial status of the Plan. To achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356 of Minnesota Statutes.

***Report Highlights***

The financial status of the Plan can be measured by three different funding ratios:

The *Accrued Benefit Funding Ratio* is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 144.73%. The corresponding ratio for the prior year was 132.50%.

The *Accrued Liability Funding Ratio* is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been use by the State. For 1998 the ratio is 148.06%, which is an increase from the 1997 value of 127.13%.

The *Projected Benefit Funding Ratio* is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 134.26% shows that the current statutory contributions are sufficient in the long run.

***Asset Information (Tables 1 and 2)***

The Actuarial Value of Assets is determined as the market value of the Special Fund as of December 31, 1997 less liabilities payable as of December 31, 1997. The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F.1 to F.5.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

***Actuarial Balance Sheet (Table 8)***

An actuarial balance sheet provides a method for evaluating current and future levels of funding. The Current Benefit Obligation used to measure current funding level is calculated as follows:

For Active Members - salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.

For Non-active Members - the discounted value of benefits.

***Actuarial Cost Method (Table 9)***

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level of percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded as a level dollar amount determined on a rolling thirty year period.

***Sources of Actuarial Gains and Losses (Table 10)***

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year, the actual experience will deviate from the long-term expectation. For an analysis of the major components of the Actuarial Gain or Loss refer to Table 10.

***Contribution Sufficiency (Table 11)***

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

Normal Costs based on the Entry Age Normal Actuarial Cost Method.

A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability (the Fund is allowed a credit toward Required Contributions equal to 10 % of the Unfunded Actuarial Accrued Liability if it is negative).

An Allowance for Expenses.

Table 11 shows the Fund has a current year contribution sufficiency since the Statutory Contribution Rate is 6.44% compared to the Required Contribution Rate of (6.35)%.

***GASB Disclosure Information (Tables 14 and 15)***

Statement No. 5 is no longer required reporting for public plans and we have removed these exhibits from our report.

Disclosure under GASB Statement No. 27 has become effective for the 1997 Fiscal Year. These disclosure items are included in Tables 14 and 15.

*Changes in Actuarial Assumptions*

All actuarial assumptions are the same as those used in the prior valuation. Table 12 contains a summary of all actuarial assumptions and methods.

*Changes in Plan Provisions*

Effective with the 1998 Fiscal Year, the City of Bloomington is no longer required to make additional contributions to the Fund. Remaining sources of funding from employee dues and State of Minnesota statutory contribution are projected to provide sufficient funds to meet emerging benefit liabilities.

All other plan provisions are the same as those used in the prior valuation. Table 13 contains a summary of current plan benefits.



**Bloomington Fire Department Association**  
**Accounting Balance Sheet**

January 1, 1998

	Market Value	Cost Value
<b>A. ASSETS</b>		
1. Cash, Equivalents, Short-Term Securities	\$ 2,513,808	\$ 2,513,808
2. Investments		
a. Fixed Income	3,741,579	3,651,812
b. Equity	82,893,397	57,301,976
c. Real Estate	249,210	893,209
3. Other Assets	10,062	10,062
<b>B. TOTAL ASSETS</b>	\$ 89,408,056	\$ 64,370,867
<b>C. AMOUNTS CURRENTLY PAYABLE</b>	\$ (149,830)	\$ (149,830)
<b>D. ASSETS AVAILABLE FOR BENEFITS</b>		
1. Total Assets	\$ 89,408,056	\$ 64,370,867
2. Unrestricted Fund Balance	1,428,439	1,428,439
3. Total Assets Available for Benefits	\$ 87,979,617	\$ 62,942,428
<b>E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS</b>	\$ 87,829,787	\$ 62,792,598
<b>F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS</b>		
1. Cost Value of Assets Available for Benefits (D.3)		\$ 62,942,428
2. Market Value of Assets Available for Benefits (D.3)	\$ 87,979,617	
3. Amounts Currently Payable (C)	(149,830)	
4. Market less Amounts Currently Payable (F.2 + F.3)	\$ 87,829,787	
5. Actuarial Value of Assets (F.4)		\$ 87,829,787

TABLE 2

**Bloomington Fire Department Association**  
**Change In Assets Available for Benefits**

December 31, 1997

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$ 74,763,001	\$ 57,728,892
B. OPERATING REVENUES		
1. Member Contributions	\$ 20,148	\$ 20,148
2. State of Minnesota Contributions	340,683	340,683
3. City of Bloomington Contributions	240,450	240,450
4. Investment Income	6,561,516	6,561,516
5. Investment Expenses	(47,520)	(47,520)
6. Net Realized Gain / (Loss)	19,861	19,861
7. Other	5,887	5,887
8. Net Change in Unrealized Gain / (Loss)	7,683,084	-
9. Total Operating Revenue	\$ 14,824,109	\$ 7,141,025
C. OPERATING EXPENSES		
1. Service Retirements	\$ 1,702,659	\$ 1,702,659
2. Disability Benefits*	-	-
3. Survivor Benefits*	-	-
4. Refunds	4,272	4,272
5. Administrative Expenses	50,392	50,392
6. Total Operating Expenses	\$ 1,757,323	\$ 1,757,323
D. OTHER CHANGES IN RESERVES	\$ -	\$ -
E. ASSETS AVAILABLE AT END OF PERIOD	\$ 87,829,787	\$ 63,112,594

\*Included in Item (C.1)

**Bloomington Fire Department Relief Association  
Active Members as of December 31, 1997**

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	4	4	1	-	-	-	-	-	9
25-29	1	13	9	1	-	-	-	-	24
30-34	-	9	17	8	-	-	-	-	34
35-39	-	7	9	5	1	-	-	-	22
40-44	-	1	6	12	6	3	-	-	28
45-49	-	1	2	4	7	2	1	-	17
50-54	-	-	-	-	9	-	-	-	9
55-59	-	-	-	-	-	-	-	-	-
60-64	-	-	1	-	-	-	-	-	1
65+	-	-	-	-	-	-	-	-	-
ALL	5	35	45	30	23	5	1	-	144

**Deferred Vested Members as of December 31, 1997**

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	30+	
<25	-	-	-	-	-	-	-	-	-
25-30	-	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-	-
35-39	-	-	-	-	-	-	-	-	-
40-44	-	-	-	-	-	1	-	-	1
45-49	-	-	-	-	-	4	-	-	4
50-54	-	-	-	-	-	4	-	-	4
55-59	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-
65+	-	-	-	-	-	-	-	-	-
ALL	-	-	-	-	-	9	-	-	9

**Bloomington Fire Department Relief Association  
Retired Members as of December 31, 1997**

<u>AGE</u>	<u>YEARS OF RETIREMENT</u>								<u>TOTAL</u>
	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<50	1	1	-	-	-	1	-	-	3
50-54	-	10	-	-	-	-	-	-	10
55-59	1	2	30	-	2	-	1	-	36
60-64	-	-	-	13	1	-	5	-	19
65-69	-	-	-	2	10	-	-	-	12
70-74	-	-	-	1	4	3	-	-	8
75-79	-	-	-	-	-	-	3	-	3
80-84	-	-	-	-	-	-	3	-	3
85+	-	-	-	-	-	-	1	-	1
ALL	2	13	30	16	17	4	13	-	95

**Disabled Members as of December 31, 1997**

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<50	-	3	-	-	-	-	-	-	-
50-54	-	2	-	-	-	-	-	-	-
ALL	-	5	-	-	-	-	-	-	5

**Survivors as of December 31, 1997**

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<50	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-
55-59	-	1	-	1	-	-	-	-	2
60-64	-	-	-	-	-	-	-	-	-
65-69	-	-	-	-	1	1	-	-	2
70-74	-	-	-	-	-	-	-	-	-
75-79	-	-	-	-	-	-	5	-	5
80-84	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	1	-	2	-	3
ALL	-	1	-	1	2	1	7	-	12

TABLE 7

**Bloomington Fire Department Relief Association**  
**Reconciliation of Members**

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JANUARY 1, 1997	137	9	-
B. ADDITIONS	14	-	-
C. DELETIONS			
1. Service Retirement	(2)	-	-
2. Disability	-	-	-
3. Death – Survivor	-	-	-
4. Death – Other	-	-	-
5. Terminated – Deferred	-	-	-
6. Terminated – Refund	-	-	-
7. Terminated – Other Non-Vested	(5)	-	-
8. Returned as Active	-	-	-
D. DATA ADJUSTMENTS	-	-	-
Vested	6	9	-
Non-Vested	138	-	-
E. TOTAL ON JANUARY 1, 1998	144	9	-

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JANUARY 1, 1997	93	7	12
B. ADDITIONS	3	-	1
C. DELETIONS			
1. Service Retirement	-	(1)	-
2. Death	(1)	(1)	-
3. Annuity Expired	-	-	(1)
4. Returned as Active	-	-	-
D. DATA ADJUSTMENTS	-	-	-
E. TOTAL ON JANUARY 1, 1998	95	5	12

**Bloomington Fire Department Association**  
**Actuarial Balance Sheet**

January 1, 1998

A. CURRENT ASSETS (Table 1; Line F.6)		\$ 87,829,787	
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Statutory Supplemental Contributions		\$ -	
2. Present Value of Future Normal Costs		23,882,655	
3. Total Expected Future Assets		<u>23,882,655</u>	
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		<u>\$ 111,712,442</u>	
D. CURRENT BENEFIT OBLIGATIONS			
	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
1. Benefit Recipients			
a. Retirement Annuities		\$ 30,797,805	\$ 30,797,805
b. Disability Benefits		1,313,160	1,313,160
c. Surviving Spouse and Child Benefits		1,784,440	1,784,440
2. Deferred Retirements		3,407,461	3,407,461
3. Former Members Without Vested Rights		-	-
4. Active Members			
a. Retirement Annuities	\$ 16,961,700	2,193,770	19,155,470
b. Disability Benefits	3,263,410	-	3,263,410
c. Surviving Spouse and Child Benefits	699,631	-	699,631
d. Deferred Retirements	220,230	43,398	263,628
e. Refund Liability Due to Death or Withdrawal	-	-	-
5. Total Current Benefit Obligations	<u>\$ 21,144,971</u>	<u>\$ 39,540,034</u>	<u>\$ 60,685,005</u>
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$ 22,519,829</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$ 83,204,834</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D.5 - A)			\$ (27,144,782)
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F - C)			\$ (28,507,608)

**Bloomington Fire Department Association**  
**Determination of Unfunded Actuarial Accrued Liability (UAAL) and**  
**Supplemental Contribution Rate**

January 1, 1998

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
<b>A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)</b>			
1. Active Members			
a. Retirement Benefits	\$ 37,412,088	\$ 17,932,926	\$ 19,479,162
b. Disability Benefits	6,529,360	4,608,244	1,921,116
c. Surviving Spouse and Child Benefits	1,400,517	1,019,572	380,945
d. Deferred Retirements	560,003	321,913	238,090
e. Refund Liability Due to Death or Withdrawal	-	-	-
f. Total	\$ 45,901,968	\$ 23,882,655	\$ 22,019,313
2. Deferred Retirements	\$ 3,407,461		\$ 3,407,461
3. Former Members Without Vested Rights	-		-
4. Annuitants in MPRIF	-		-
5. Annuitants Not in MPRIF	33,895,405		33,895,405
6. Total	\$ 83,204,834	\$ 23,882,655	\$ 59,322,179
<b>B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)</b>			
1. Actuarial Accrued Liability (A.6)			\$ 59,322,179
2. Current Assets (Table 1; Line F.6)			87,829,787
3. Unfunded Actuarial Accrued Liability (B.1 - B.2)			\$ (28,507,608)
<b>C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE</b>			
1. 30 Year Level Dollar Amortization Factor			16.140
2. Supplemental Contribution (B.3 / C.1), but not less than 0			\$ -
3. Supplemental Credit for Surplus Assets (10% * B.3)			\$ (2,850,761)
4. Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:			\$ 7,122,960
5. Supplemental Contribution Rate (C.3 / C.4)			(40.02%)

**Bloomington Fire Department Association**  
***Changes in Unfunded Actuarial Accrued Liability (UAAL)***

December 31, 1997

A. UAAL AT BEGINNING OF YEAR	\$ (15,955,400)
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$ 113,600
2. Contributions	(601,281)
3. Interest	(807,122)
4. Total	<u>\$ (1,294,803)</u>
C. EXPECTED UAAL AT END OF YEAR (A + B.4)	\$ (17,250,203)
D. INCREASE / (DECREASE) DUE TO ACTUARIAL LOSSES / (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Age and Service Retirements *	\$ -
2. Disability Retirements *	-
3. Death-in-Service Benefits *	-
4. Withdrawal *	-
5. Salary Increases	(244,983)
6. Contribution Income *	-
7. Investment Income	(10,513,579)
8. Mortality of Annuitants	(92,330)
9. Other Items	(406,513)
10. Total	<u>\$ (11,257,405)</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.5)	\$ (28,507,608)
F. CHANGE IN UAAL DUE TO PLAN AMENDMENTS	-
G. CHANGE IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	<u>-</u>
H. UAAL AT END OF YEAR (E + F + G)	<u><u>\$ (28,507,608)</u></u>

\* Included in Item D.9.



**Bloomington Fire Department Association**  
***Determination of Contribution Sufficiency***

January 1, 1998

	Percent of Payroll	Dollar Amount
<b>A. STATUTORY CONTRIBUTIONS - CHAPTER 354</b>		
1. Employee Contributions	0.29%	\$ 20,736
2. State of Minnesota Contributions	4.78%	340,683
3. City of Bloomington Contributions	0.00%	-
4. Administrative Expense	1.37%	97,912
5. Total	6.44%	\$ 459,331
<b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>		
1. Normal Cost		
a. Retirement Benefits	24.25%	\$ 1,727,659
b. Disability Benefits	6.32%	449,926
c. Surviving Spouse and Child Benefits	1.39%	99,119
d. Deferred Retirements	0.34%	24,140
e. Refund Liability Due to Death or Withdrawal	0.00%	-
f. Total	32.30%	\$ 2,300,844
2. Supplemental Contribution Amortization	(40.02%)	(2,850,761)
3. Allowance for Administrative Expenses	1.37%	97,912
4. Total	(6.35%)	\$ (452,005)
<b>C. CONTRIBUTION SUFFICIENCY / (DEFICIENCY) (A.5 - B.4)</b>	12.79%	911,336
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 7,122,960

**Bloomington Fire Department Relief Association**  
**Summary of Actuarial Assumptions and Methods**

<i>Interest:</i>	5.00% per annum																		
<i>Mortality:</i>	<table> <tr> <td>Pre-Retirement:</td> <td></td> </tr> <tr> <td>    Male -</td> <td>1971 Group Annuity Mortality Table, without margins, projected to 1976 by Scale E.</td> </tr> <tr> <td>    Female -</td> <td>1971 Group Annuity Mortality Table, without margins, projected to 1976 by Scale E set back 7 years.</td> </tr> <tr> <td>Post-Retirement:</td> <td></td> </tr> <tr> <td>    Male -</td> <td>same as above.</td> </tr> <tr> <td>    Female -</td> <td>same as above.</td> </tr> <tr> <td>Post-Disability:</td> <td></td> </tr> <tr> <td>    Male -</td> <td>same as above.</td> </tr> <tr> <td>    Female -</td> <td>same as above.</td> </tr> </table>	Pre-Retirement:		Male -	1971 Group Annuity Mortality Table, without margins, projected to 1976 by Scale E.	Female -	1971 Group Annuity Mortality Table, without margins, projected to 1976 by Scale E set back 7 years.	Post-Retirement:		Male -	same as above.	Female -	same as above.	Post-Disability:		Male -	same as above.	Female -	same as above.
Pre-Retirement:																			
Male -	1971 Group Annuity Mortality Table, without margins, projected to 1976 by Scale E.																		
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Post-Retirement:																			
Male -	same as above.																		
Female -	same as above.																		
Post-Disability:																			
Male -	same as above.																		
Female -	same as above.																		
<i>Retirement Age:</i>	Members are assumed to retire after attaining age 50 and completing 20 Years of Service.																		
<i>Separation:</i>	Graded rates shown in the rate table.																		
<i>Disability:</i>	Graded rates shown in the rate table.																		
<i>Social Security:</i>	N/A																		
<i>Salary Increases:</i>	3.5% per annum.																		
<i>COLA Increases:</i>	3.5% per annum.																		
<i>Actuarial Cost Method:</i>	Entry Age Normal Cost Method with normal costs expressed as level percentage of earnings from each Members date of joining the Association to the Members assumed retirement age.																		
<i>Asset Valuation Method:</i>	Market Value.																		
<i>Payment on the Unfunded Accrued Liability:</i>	Any changes in the Unfunded Accrued Liability are amortized as level dollar amount over a new 30 year period																		

**Bloomington Fire Department Relief Association**  
**Summary of Actuarial Assumptions and Methods (continued)**

<i>Administrative Expenses:</i>	Prior year administrative expenses (excluding investment expenses) expressed as a level amount per participant.												
<i>Family Composition:</i>	100% of Members are assumed to be married. Female is assumed to be three years younger than male.  Duty-related death benefits are increased by 10% for estimated dependent child survivor benefit.												
<i>Form of Payments:</i>	75% Joint and Survivor Annuity, Life Annuity if single.												
<i>Missing Data:</i>	The submitted participant data has been reviewed for reasonableness and constancy with data submitted for prior valuations. We have not audited this data, and the results of this valuation may change based on the accuracy of the underlying data. In cases where submitted data was missing or incomplete, the following assumptions were applied: <table border="0" style="margin-left: 40px;"> <tr> <td style="padding-right: 20px;">Date of Birth:</td> <td>Average age of participant group based on prior years valuation report.</td> </tr> <tr> <td>Date of Hire:</td> <td>Current valuation date minus years of service.</td> </tr> <tr> <td>Years of Service:</td> <td>Years of service on last year's valuation plus one year.</td> </tr> <tr> <td>Sex:</td> <td>Male.</td> </tr> <tr> <td>Deferred Benefit:</td> <td>Equal to one-third of current year average indexed earnings.</td> </tr> <tr> <td>Salary:</td> <td>Each Member is assumed to earn the same as Bloomington Policemen.</td> </tr> </table>	Date of Birth:	Average age of participant group based on prior years valuation report.	Date of Hire:	Current valuation date minus years of service.	Years of Service:	Years of service on last year's valuation plus one year.	Sex:	Male.	Deferred Benefit:	Equal to one-third of current year average indexed earnings.	Salary:	Each Member is assumed to earn the same as Bloomington Policemen.
Date of Birth:	Average age of participant group based on prior years valuation report.												
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Years of Service:	Years of service on last year's valuation plus one year.												
Sex:	Male.												
Deferred Benefit:	Equal to one-third of current year average indexed earnings.												
Salary:	Each Member is assumed to earn the same as Bloomington Policemen.												

**Bloomington Fire Department Relief Association**  
**Summary of Actuarial Assumptions and Methods (continued)**

*Separations Expressed as the Number of Occurrences per 10,000*

<u>Age</u>	<u>Death</u>		<u>Withdrawal</u>	<u>Disability</u>	<u>Retirement</u>
	<u>Male</u>	<u>Female</u>			
20	5	4	300	24	0
21	5	4	290	24	0
22	5	4	280	24	0
23	5	4	270	24	0
24	6	4	260	24	0
25	6	5	250	24	0
26	6	5	240	24	0
27	7	5	230	24	0
28	7	5	220	24	0
29	7	5	210	24	0
30	8	5	200	24	0
31	8	6	190	24	0
32	9	6	180	24	0
33	9	6	170	24	0
34	10	7	160	26	0
35	11	7	150	30	0
36	12	7	140	34	0
37	13	8	130	40	0
38	14	8	120	46	0
39	15	9	110	52	0
40	16	9	100	58	0
41	17	10	90	64	0
42	19	11	80	74	0
43	22	12	70	84	0
44	25	13	60	96	0
45	28	14	50	110	0
46	32	15	40	128	0
47	36	16	30	142	0
48	41	17	20	158	0
49	46	19	10	174	0
50	-	-	-	-	10,000

**Bloomington Fire Department Relief Association  
Summary of Plan Provisions**

**GENERAL**

<i>Eligibility:</i>	Members in good and regular standing of the Bloomington Fire Department Relief Association, and who have actively served as fire fighters in the Bloomington Fire Department for at least one month.
<i>Membership Dues:</i>	One hundred forty-four dollars per year, payable semi-annually on January 1 and July 1.
<i>Index Salary:</i>	The average of the monthly salary for the preceding three years, including the current year of a patrol officer of the highest grade in the employ of the city of Bloomington.
<i>Basic Benefit:</i>	One third of the index salary. All benefits under the plan increase each time a pay increase is granted to the Bloomington Police Department.

**RETIREMENT***Normal Retirement Benefit:*

<i>Eligibility:</i>	Age 50 with 20 years of Service.
<i>Amount:</i>	Basic Benefit
<i>Form of Payment:</i>	75% Joint and Survivor if married, Life Annuity if single.

*Disability Benefit:*

<i>Eligibility:</i>	Inability to perform the duties of a firefighter.
<i>Duty Related Amount:</i>	Basic benefit is payable at time of disability. This benefit is payable during the period of disability. After attainment of age 50, no evidence of disability is required for the benefit to continue.
<i>Non-Duty Related Amount:</i>	The basic benefit is multiplied by 5% for each year of service up to the date of disability (maximum 20 years). This benefit is payable during the period of disability. After attainment of age 50, no evidence of disability is required for the benefit to continue.
<i>Form of Payment:</i>	Same as for retirement.

**Bloomington Fire Department Relief Association  
Summary of Plan Provisions (continued)**

**DEATH***Spouse's Benefit*

*Duty-Related Amount:* 75% of the basic benefit is payable for his or her remaining lifetime. Benefits cease on remarriage of the surviving spouse.

*Non-Duty Related Amount:* 75% of the basic benefit multiplied by 5% for each year of service up to the date of death to a maximum of 20 years. This benefit is payable for his or her remaining lifetime. Benefits cease on remarriage of the surviving spouse.

*Childrens' Benefit:*

*Eligibility:* An active Member who dies and leaves surviving children.

*Amount:* 12% of the basic benefit is payable to each surviving child until attainment of age 18 or marriage. The maximum benefit paid to all family members will not exceed 100% of the basic benefit.

*Lump Sum Death Benefit:* \$500 is payable on the death of any active or inactive member:

**TERMINATION**

*Eligibility:* 20 years of Service.

*Amount:* The basic benefit is payable at age 50.

**Bloomington Fire Department Association  
Schedule of Funding Progress**

January 1, 1998

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (B)	Unfunded AAL (UAAL) (B)-(A)	Funded Ratio (A)/(B)	Actual Covered Payroll (Previous FY) (C)	UAAL as % of Covered Payroll ((B)-(A))/(C)
01/01/95	53,669,100	50,359,800	(3,309,300)	106.57%	6,563,700	(50.42%)
01/01/96	66,622,700	56,410,500	(10,212,200)	118.10%	6,945,936	(147.02%)
01/01/97	74,763,000	58,807,600	(15,955,400)	127.13%	6,620,388	(241.00%)
01/01/98	87,829,787	59,322,179	(28,507,608)	148.06%	7,122,960	(400.22%)

**Bloomington Fire Department Association**  
***Schedule of Employer Contributions***

January 1, 1998

Year Ended December 31	Actuarially Required Contribution Rate (A)	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contributions [(A)*(B)]-(C)	Actual Employer Contributions*	Percentage Contributed
1995	22.82%	6,563,700	20,242	1,477,357	498,646	33.75%
1996	10.67%	6,945,936	20,573	720,327	1,599,062	221.99%
1997	1.80%	6,620,388	20,148	99,152	340,683	343.60%
1998	(6.35%)	7,122,960	20,148	(472,153)	-	0.00%

\*Includes contributions from other sources (if applicable)



**Bloomington Fire Department Association**

*Schedule of Projected Benefits*

Active Participants

<u>Name</u>	<u>Sex</u>	<u>Date of Birth</u>	<u>Date of Hire</u>	<u>Normal Retirement Date</u>	<u>Projected Annual Benefit</u>
ADELMANN, S	M	12/01/56	07/01/91	12/01/10	25,148
AHMAN, W	M	09/01/53	05/01/78	09/01/03	19,766
ALLEN, D	M	07/01/73	08/01/93	07/01/23	38,001
ANDERSON, S	M	10/01/51	01/01/86	10/01/11	26,029
ANGRIMSON, T	M	10/01/67	03/01/97	10/01/17	31,996
ANGUS, T	M	03/01/61	06/01/97	03/01/17	30,914
ANSELMIN, D	M	11/01/68	12/01/96	11/01/18	33,116
ARBUCKLE, T	M	02/01/60	01/01/84	02/01/10	24,298
ASKE, B	M	12/01/56	10/01/83	12/01/06	21,915
BAETEN, J	M	11/01/62	11/01/93	11/01/13	27,882
BAKER, R	M	11/01/59	08/01/96	11/01/15	29,868
BARNES, J	M	01/01/53	09/01/79	01/01/03	19,098
BATTEN, D	M	08/01/64	05/01/91	08/01/14	28,858
BAYARD, J	M	02/01/60	07/01/91	02/01/12	26,029
BELL, J	M	08/01/57	05/01/89	08/01/08	23,476
BLODGETTS, S	M	10/01/43	07/01/78	10/01/98	16,643
BOWEN, C	M	05/01/74	03/01/97	05/01/24	39,331
BRANDT, M	M	07/01/67	07/01/88	07/01/17	30,914
BUJOLD	M	08/01/57	06/01/97	08/01/11	26,029
CARLSON B	M	06/01/70	08/01/88	06/01/20	34,275
CARLSON T	M	10/01/66	11/01/91	10/01/16	30,914
CARNEY, T	M	09/01/53	07/01/88	09/01/08	23,476
CHEREP, T	M	10/01/68	12/01/95	10/01/18	33,116
COLLINS, P	M	04/01/54	12/01/84	04/01/05	20,458
CONGDON, D	M	05/01/38	06/01/87	05/01/11	25,148
DALY, L	M	10/01/52	04/01/87	10/01/06	21,915
DELONG, D	M	07/01/54	03/01/85	07/01/05	20,458
DONNELLY, R	M	08/01/64	11/01/91	08/01/14	28,858
DOYLE, M	M	03/01/49	06/01/82	03/01/02	18,452
DUERKOP, J	M	01/01/53	04/01/83	01/01/03	19,098
DUGAL, G	M	01/01/48	08/01/79	01/01/00	17,225
DUNHAM, B	M	03/01/55	07/01/80	03/01/05	20,458
DUPEY, D	M	05/01/69	09/01/96	05/01/19	33,116
EBEL, A	M	02/01/61	08/01/96	02/01/17	30,914
ELLINGS, D	M	08/01/59	03/01/82	08/01/09	24,298
EPPS, L	F	02/01/78	02/01/97	02/01/28	45,133