

06 - 0694

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

**January 1, 2005**

MILLIMAN

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

	January 1, 2004 Valuation	January 1, 2005 Valuation
<b>A. CONTRIBUTIONS % OF PAYROLL (Table 11)</b>		
1. Statutory Contributions - Chapter 354A	0.89%	0.78%
2. Required Contributions - Chapter 356	23.38%	16.16%
3. Sufficiency / (Deficiency)	(22.49%)	(15.38%)
<b>B. FUNDING RATIOS</b>		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$ 91,904,999	\$ 101,341,890
b. Current Benefit Obligations (Table 8)	85,952,012	90,687,111
c. Funding Ratio	106.93%	111.75%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$ 91,904,999	\$ 101,341,890
b. Actuarial Accrued Liability (Table 9)	83,388,410	88,034,799
c. Funding Ratio	110.21%	115.12%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$ 121,029,539	\$ 129,198,602
b. Current and Expected Future Benefit Obligations	112,512,950	115,891,511
c. Funding Ratio	107.57%	111.48%
<b>C. PLAN PARTICIPANTS</b>		
1. Active Members		
a. Number (Table 3)	142	134
b. Projected Annual Earnings	\$ 8,792,640	\$ 8,517,612
c. Average Annual Earnings (Actual dollars)	\$ 61,920	\$ 63,564
d. Average Age	37.1	37.9
e. Average Service	9.4	10.0
f. Additional Members on Leave of Absence	-	-
2. Others		
a. Service Retirements (Table 4)	116	125
b. Disability Retirements (Table 5)	10	8
c. Survivors (Table 6)	13	14
d. Deferred Retirements (Table 7)	11	8
e. Terminated Other Non-Vested (Table 7)	-	-
f. Total	150	155

**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 that have been earned by service to the valuation date. This year's ratio is 111.75%. The corresponding ratio for the prior year was 106.93%.

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 2005 the ratio is 115.12%, which is an increase from the 2004 value of 110.21%.

The *Projected Benefit Funding Ratio* is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 111.48% 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, 2004 less liabilities payable as of December 31, 2004. The calculation of the actuarial value of assets is shown in Table 1 on lines F.1 to F.2.

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.

*Commentary (continued)*

***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, line B3, 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. If current assets do not exceed the actuarial accrued liability, the unfunded actuarial accrued liability is amortized as a level dollar amount to December 31, 2010 and incorporated into the required contribution development. However, if current assets exceed the actuarial accrued liability, a supplemental credit equal to 10% of the excess is used to offset the normal cost and expense determination of the required contribution.

***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:

A normal cost 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) as of the valuation date.

An allowance for expenses.

Table 11 shows the Fund has a current year contribution deficiency since the statutory contribution rate is 0.78% compared to the required contribution rate of 16.16%.

***GASB disclosure information (Tables 14 and 15)***

Disclosure under GASB Statement No. 27 became effective beginning with 1997 fiscal year end. Required disclosure items are included in Tables 14 and 15.

*Commentary (continued)*

*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*

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

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

January 1, 2005

	Market Value	Cost Value <sup>1</sup>
<b>A. ASSETS</b>		
1. Cash, Equivalents, Short-Term Securities	\$ 8,645	\$ 8,645
2. Investments		-
a. Fixed Income	-	-
b. Equity	-	-
c. Real Estate	-	-
3. Other Assets	101,579,277	62,581,964
<b>B. TOTAL ASSETS</b>	\$ 101,587,922	\$ 62,590,609
<b>C. AMOUNTS CURRENTLY PAYABLE</b>	\$ 246,032	\$ 246,032
<b>D. ASSETS AVAILABLE FOR BENEFITS</b>		
1. Total Assets	\$ 101,341,890	\$ 62,344,577
2. Unrestricted Fund Balance	-	-
3. Total Assets Available for Benefits	\$ 101,341,890	\$ 62,344,577
<b>E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS</b>	\$ 101,587,922	\$ 62,590,609
<b>F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS</b>		
1. Market Value of Assets Available for Benefits (D.3)	\$ 101,341,890	
2. Actuarial Value of Assets (F.1)	\$ 101,341,890	

<sup>1</sup> Actual cost value was not reported. Amounts have been estimated for purposes of this report.

TABLE 2

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

December 31, 2004

	Market Value		Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$ 91,904,999	\$	60,462,372
B. OPERATING REVENUES			
1. Member Contributions	\$ -	\$	-
2. State of Minnesota Contributions	625,566		625,566
3. City of Bloomington Contributions	2,986,280		2,986,280
4. Investment Income	755,281		755,281
5. Investment Expenses	(78,690)		(78,690)
6. Net Realized Gain / (Loss) <sup>1</sup>	71,463		71,463
7. Other	-		-
8. Net Change in Unrealized Gain / (Loss) <sup>1</sup>	7,916,570		-
9. Total Operating Revenue	\$ 12,276,470	\$	4,359,900
C. OPERATING EXPENSES			
1. Service Retirements	\$ (2,775,354)	\$	(2,775,354)
2. Disability Benefits <sup>2</sup>	-		-
3. Survivor Benefits <sup>2</sup>	-		-
4. Refunds	-		-
5. Administrative Expenses	(64,223)		(64,223)
6. Total Operating Expenses	\$ (2,839,577)	\$	(2,839,577)
D. OTHER CHANGES IN RESERVES <sup>3</sup>	\$ 246,030	\$	607,914
E. ASSETS AVAILABLE AT END OF PERIOD	\$ 101,587,922	\$	62,590,609

<sup>1</sup> Actual breakdown between unrealized and realized gain was not provided to Milliman, Inc.; these numbers represent Milliman's best estimate of such split based upon the information which was provided by Union Bank and Trust and Sharyn North.

<sup>2</sup> Included in Item (C.1)

<sup>3</sup> The cost value change in reserves includes the \$373,498 adjustment from 2004 less \$11,614 adjustment for the change in the unrealized as of January 1, 2004.

**Bloomington Fire Department Relief Association**

TABLE 3A

*Active Members as of December 31, 2004*

Age	Participant Count								TOTAL
	YEARS OF SERVICE								
	<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>	
<20	-	-	-	-	-	-	-	-	-
20-24	-	2	1	-	-	-	-	-	3
25-29	-	4	6	-	-	-	-	-	10
30-34	-	6	14	8	1	-	-	-	29
35-39	-	4	16	12	8	2	-	-	42
40-44	-	3	6	7	11	-	-	-	27
45-49	-	-	2	5	3	4	1	-	15
50-54	-	-	-	-	7	1	-	-	8
55-59	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-
65+	-	-	-	-	-	-	-	-	-
All	-	19	45	32	30	7	1	-	134

TABLE 3B

*Deferred Vested Members as of December 31, 2004*

Age	Participant Count								TOTAL
	YEARS OF RETIREMENT								
	<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	7	-	-	-	-	-	-	-	7
50-54	1	-	-	-	-	-	-	-	1
55-59	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-
65-69	-	-	-	-	-	-	-	-	-
70-74	-	-	-	-	-	-	-	-	-
75-79	-	-	-	-	-	-	-	-	-
80-84	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-
All	8	-	-	-	-	-	-	-	8

Bloomington Fire Department Relief Association

TABLE 4

*Retired Members as of December 31, 2004*

Age	Participant Count								TOTAL
	YEARS OF RETIREMENT								
	<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	3	14	3	1	1	-	-	-	22
55-59	-	6	15	2	-	-	-	-	23
60-64	-	-	3	29	-	-	1	-	33
65-69	-	-	1	-	22	-	1	4	28
70-74	-	-	-	-	1	2	4	1	8
75-79	-	-	-	-	-	-	3	-	3
80-84	-	-	-	-	-	1	1	3	5
85+	-	-	-	-	-	-	-	3	3
All	3	20	22	32	24	3	10	11	125

TABLE 5

*Disabled Members as of December 31, 2004*

Age	Participant Count								TOTAL
	YEARS OF RETIREMENT								
	<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	-	4	1	1	-	-	-	-	6
50-54	1	-	-	-	-	-	-	-	1
55-59	-	1	-	-	-	-	-	-	1
60-64	-	-	-	-	-	-	-	-	-
65-69	-	-	-	-	-	-	-	-	-
70-74	-	-	-	-	-	-	-	-	-
75-79	-	-	-	-	-	-	-	-	-
80-84	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-
All	1	5	1	1	-	-	-	-	8

TABLE 6

*Survivor Members as of December 31, 2004*

Age	Participant Count								TOTAL
	YEARS OF RETIREMENT								
	<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
50-54	-	-	-	-	-	-	-	-	-
55-59	-	-	1	-	-	-	-	-	1
60-64	-	-	-	-	-	-	-	-	-
65-69	-	1	1	-	1	-	-	-	3
70-74	-	-	1	-	-	-	3	-	4
75-79	-	-	-	-	-	-	-	-	-
80-84	-	-	-	-	-	-	-	1	1
85+	-	-	-	-	-	-	1	3	4
All	-	2	3	-	1	-	4	4	14

**Bloomington Fire Department Relief Association**

**TABLE 7**

*Reconciliation of Members*

	<u>Actives</u>	<u>Terminated</u>	
		<u>Deferred Retirement</u>	<u>Other Non-Vested</u>
A. ON JANUARY 1, 2004	142	11	
B. ADDITIONS	1	2	
C. DELETIONS			
1 Service Retirement	(1)	(1)	
2 Disability	(2)		
3 Death – Survivor			
4 Death – Other			
5 Terminated – Deferred	(2)		
6 Terminated – Refund			
7 Terminated - Other Non-Vested	(3)		
8 Leave of Absence			
9 Returned as Active			
D. DATA ADJUSTMENTS	<u>(1)</u>	<u>(4)</u>	
Vested	8	8	
Non-Vested	126	-	
E. TOTAL ON DECEMBER 31, 2004	134	8	

	<u>Recipients</u>		
	<u>Retirement</u>		
	<u>Annuitants</u>	<u>Disabled</u>	<u>Survivors</u>
A. ON JANUARY 1, 2004	116	10	13
B. ADDITIONS	7	2	
C. DELETIONS			
1 Service Retirement		(5)	
2 Death	(5)		1
3 Annuity Expired			
4 Returned as Active			
D. DATA ADJUSTMENTS	<u>7</u>	<u>1</u>	<u>-</u>
E. TOTAL ON DECEMBER 31, 2004	125	8	14

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

January 1, 2005

A. CURRENT ASSETS (Table 1; Line F.2)		\$	101,341,890
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Statutory Supplemental Contributions		\$	-
2. Present Value of Future Normal Costs			<u>27,856,712</u>
3. Total Expected Future Assets			<u>27,856,712</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		\$	<u>129,198,602</u>
D. CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
1. Benefit Recipients			
a. Retirement Annuities		\$ 49,035,264	\$ 49,035,264
b. Disability Benefits		3,206,755	3,206,755
c. Surviving Spouse and Child Benefits		2,678,186	2,678,186
2. Deferred Retirements		4,099,865	4,099,865
3. Former Members Without Vested Rights		-	-
4. Active Members			
a. Retirement Annuities	\$ 22,898,938	3,791,197	26,690,135
b. Disability Benefits	3,708,024	-	3,708,024
c. Surviving Spouse and Child Benefits	754,240	-	754,240
d. Deferred Retirements	445,098	69,544	514,642
e. Refund Liability Due to Death or Withdrawal	-	-	-
5. Total Current Benefit Obligations	<u>\$ 27,806,300</u>	<u>\$ 62,880,811</u>	<u>\$ 90,687,111</u>
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$ 25,204,400</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$ 115,891,511</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D.5 - A)		\$	(10,654,779)
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F - C)		\$	(13,307,091)

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

January 1, 2005

	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	\$ 46,072,521	\$ 20,685,528	\$ 25,386,993
b. Disability Benefits	8,312,900	5,622,921	2,689,979
c. Surviving Spouse and Child Benefits	1,680,564	1,177,825	502,739
d. Deferred Retirements	805,456	370,438	435,018
e. Refund Liability Due to Death or Withdrawal	-	-	-
f. Total	\$ 56,871,441	\$ 27,856,712	\$ 29,014,729
2. Deferred Retirements	\$ 4,099,865		\$ 4,099,865
3. Former Members Without Vested Rights	-		-
4. Annuitants in MPRIF	-		-
5. Annuitants Not in MPRIF	54,920,205		54,920,205
6. Total	\$ 115,891,511	\$ 27,856,712	\$ 88,034,799
<b>B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)</b>			
1. Actuarial Accrued Liability (A.6)			\$ 88,034,799
2. Current Assets (Table 1; Line F.2)			101,341,890
3. Unfunded Actuarial Accrued Liability (B.1 - B.2)			\$ (13,307,091)
<b>C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE</b>			
1. Level Dollar Amortization Factor to December 31, 2010			N/A
2. Supplemental Contribution (B.3 / C.1), but not less than 0			N/A
3. Supplemental Credit for Surplus Assets (10% * B.3)			\$ (1,330,709)
4. Projected Annual Payroll for Fiscal Year Beginning of the Valuation Date:			8,517,612
5. Supplemental Contribution Rate (C.3 / C.4)			(15.62%)

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

December 31, 2004

A. UAAL AT BEGINNING OF YEAR		\$ (8,516,589)
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING		
1. Normal Cost and Expenses		\$ 2,908,403
2. Contributions		(3,611,846)
3. Interest		(370,705)
4. Total		<u>\$ (1,074,148)</u>
C. EXPECTED UAAL AT END OF YEAR (A + B.4)		\$ (9,590,737)
D. INCREASE / (DECREASE) DUE TO ACTUARIAL LOSSES / (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED		
1. Age and Service Retirements <sup>1</sup>		\$ -
2. Disability Retirements <sup>1</sup>		-
3. Death-in-Service Benefits <sup>1</sup>		-
4. Withdrawal <sup>1</sup>		-
5. Salary Increases		(123,304)
6. Contribution Income <sup>2</sup>		-
7. Investment Income		(4,050,065)
8. Mortality of Annuitants		(1,513,159)
9. Other Items		1,970,174
10. Total		<u>\$ (3,716,354)</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.10)		\$ (13,307,091)
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>\$ (13,307,091)</u></u>

<sup>1</sup> Included in Item D.9.

<sup>2</sup> Included in Item D.7.

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

January 1, 2005

	Percent of Payroll	Dollar Amount
<b>A. STATUTORY CONTRIBUTIONS - CHAPTER 354</b>		
1. Employee Contributions	-	\$ -
2. State of Minnesota Contributions	-	-
3. City of Bloomington Contributions	-	-
4. Administrative Expense	0.78%	66,471
5. Total	<u>0.78%</u>	<u>\$ 66,471</u>
<b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>		
1. Normal Cost		
a. Retirement Benefits	23.07%	\$ 1,965,204
b. Disability Benefits	6.25%	532,251
c. Surviving Spouse and Child Benefits	1.32%	112,442
d. Deferred Retirements	0.36%	30,416
e. Refund Liability Due to Death or Withdrawal	-	-
f. Total	<u>31.00%</u>	<u>\$ 2,640,313</u>
2. Supplemental Contribution Amortization	(15.62%)	(1,330,451)
3. Allowance for Administrative Expenses	0.78%	66,471
4. Total	<u>16.16%</u>	<u>\$ 1,376,333</u>
<b>C. CONTRIBUTION SUFFICIENCY / (DEFICIENCY) (A.5 - B.4)</b>	<b>(15.38%)</b>	<b>(1,309,862)</b>
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 8,517,612

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

<i>Interest:</i>	5.00% per annum
<i>Mortality:</i>	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.
<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 a level percentage of earnings from each member's date of joining the Association to the member's assumed retirement age.
<i>Asset valuation method:</i>	Market value. Trusteed funds are reported by Union Bank and Trust Company. The Plan's accountant reported cash and checking accounts.
<i>Employee contributions:</i>	None.
<i>City of Bloomington contributions:</i>	None

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

<i>State of Minnesota contributions:</i>	2% of the Fire and Casualty premium paid by the City of Bloomington
<i>Payment on the unfunded accrued liability:</i>	Whenever the actuarial accrued liability exceeds current assets, the unfunded accrued liability is amortized as a level dollar amount to December 31, 2010. Otherwise, 10% of the excess of current assets over the actuarial accrued liability is treated as a supplemental credit.
<i>Administrative expenses:</i>	Prior year administrative expenses (excluding investment expenses) increased by 3.5%.
<i>Family composition:</i>	100% of members are assumed to be married. Female spouses are assumed to be three years younger than male spouses.  Duty-related death benefits are increased by 10% for estimated dependent child survivor benefit.
<i>Form of payment:</i>	75% Joint and survivor annuity, life annuity if single.
<i>Missing data:</i>	The submitted participant data has been reviewed for reasonableness and consistency 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:
Date of birth:	Average age of participant group based on prior year's 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. Current rate is \$1,723.00 / month.

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

*Benchmark salary:*

Each member is assumed to earn the same as Bloomington policemen.

Estimated historical levels:

2005 63,816\*

2004 61,920

2003 60,348

\* - Estimated as union negotiations are in process as of the date of this valuation. Once the level is finalized, the results contained in this report may need to be adjusted.

TABLE 12 (continued)

**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>	None.
<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.

**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 Relief Association  
Schedule of Funding Progress**

January 1, 2005

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (B)	Unfunded AAL (UAAL) (B)-(A)	Funded Ratio (A)/(B)	Actual Covered Payroll <sup>1</sup> (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%)
01/01/99	98,908,878	64,855,595	(34,053,283)	152.51%	7,523,040	(452.65%)
01/01/00	110,084,568	66,819,827	(43,264,741)	164.75%	7,197,420	(601.11%)
01/01/01	103,718,180	71,967,391	(31,750,789)	144.12%	8,262,000	(384.30%)
01/01/02	93,960,664	76,035,748	(17,924,916)	123.57%	9,329,280	(192.14%)
01/01/03	78,447,409	81,361,778	2,914,369	96.42%	9,172,896	31.77%
01/01/04	91,904,999	83,388,410	(8,516,589)	110.21%	8,792,640	(96.86%)
01/01/05	101,341,890	88,034,799	(13,307,091)	115.12%	8,517,612	(156.23%)

<sup>1</sup>Imputed based on estimated Bloomington police officer earnings.

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

January 1, 2005

Year Ended December 31	Actuarially Required Contribution Rate (A)	Actual Covered Payroll <sup>1</sup> (B)	Actual Member Contributions (C)	Annual Required Contributions [(A)*(B)]-(C)	Actual Employer Contributions <sup>2</sup>	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	581,133	586.10%
1998	(6.35%)	7,122,960	20,592	(472,900)	568,433	(120.20%)
1999	(12.69%)	7,523,040	-	(954,674)	360,549	(37.77%)
2000	(26.55%)	7,197,420	-	(1,910,915)	370,100	(19.37%)
2001	(5.66%)	8,262,000	-	(467,629)	363,938	(77.83%)
2002	13.24%	9,329,280	-	1,235,197	411,764	33.34%
2003	37.46%	9,172,896	-	3,436,167	1,238,310	36.04%
2004	23.28%	8,792,640	-	2,046,927	3,611,846	176.45%

<sup>1</sup>Imputed based on estimated Bloomington police officer earnings.

<sup>2</sup>Includes contributions from other sources (if applicable)