Bloomington Fire Department Relief Association

January 1, 2013 Actuarial Valuation

Prepared by:

Milliman, Inc.

Author Name

Robert A. Behar, FSA, E.A., M.A.A.A.

Author Name

Timothy J. Herman, FSA, M.A.A.A, E.A.

71 S. Wacker Drive, Suite 3100
Chicago, IL 60606

Tel +1 312 726-0677
Fax +1 312 499-5695

milliman.com

Issued February 15, 2013

Milliman

71 South Wacker Drive
31st Floor
Chicago, IL 60606
USA

Tel +1 312 726 0677
Fax +1 312 499 5695

milliman.com

February 15, 2013

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

Re: Actuarial Valuation Report as of January 1, 2013
Bloomington Fire Department Relief Association Pension Fund

Dear Board Members:

As requested, we have performed an actuarial valuation of the Bloomington Fire Department Relief Association Pension Fund ("the Fund") as of January 1, 2013, for the Plan Year ending December 31, 2013. Our findings are set forth in this actuarial valuation report.

The actuarial valuation was performed using information (verbal and written) as of the valuation date, furnished by the Bloomington Fire Department Relief Association, Union Bank and Trust Company, Wells Fargo Advisors, LLC and the auditor. This information includes, but is not limited to, plan documents and statutory provisions, employee data, and financial information. This data was relied upon as submitted. Although we have not performed a detailed audit of the data provided, we have reviewed the data for reasonableness and consistency. Since the results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

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 our understanding of the requirements of Sections 356.20 through 356.23 and Section 69.77, Minnesota Statutes ("the Statutes"), the Standards for Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement ("LCPR"), and the generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. In addition, Mr. Herman meets the requirements of "approved actuary" under Section 356.215, Subdivision 1, Paragraph (c) of Minnesota Statutes.

We further certify that all costs, liabilities, rates of interest, and other factors (except when determination is mandated directly by the Statutes) under the Fund have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations) and which, in combination, offer our best estimate of anticipated experience under the Fund. Nevertheless, the emerging costs will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions.

Actuarial computations under the Statutes are for purposes of determining the funded status and the contribution sufficiency for the Fund. The calculations in the enclosed report have been made on a basis consistent with our understanding of the Statutes and the Standards for Actuarial Work established by the LCPR. Determinations for purposes other than meeting the requirements of the Statutes may be significantly different from the results contained in this report. Accordingly, additional determinations are needed for other purposes, such as judging benefit security at plan termination.

Any distribution of the enclosed report must be in its entirety including this transmittal letter, unless prior written consent is obtained from Milliman, Inc. This report has been prepared in accordance with the terms and provisions of the Consulting Services Agreement adopted August 19, 2003.

We respectfully submit this report, and we look forward to discussing it with you.

Respectfully submitted,

MILLIMAN, INC.

Timothy J. Herman, FSA, MAAA, EA
Principal & Consulting Actuary

Robert A. Behar, FSA, MAAA, EA
Actuary

Bloomington Fire Department Relief Association
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PLAN PROVISIONS

GASB DISCLOSURE

Bloomington Fire Department Relief Association
Report Highlights

	January 1, 2012 Valuation	January 1, 2013 Valuation
A. CONTRIBUTIONS % OF PAYROLL (Table 11)		
1. Relief Association financial requirements - Section 69.77	24.25%	31.19%
2. Minimum City of Bloomington obligation - Section 69.77	20.32%	27.45%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$ 110,822,777	$ 122,544,915
b. Current Benefit Obligations (Table 8)	107,392,279	123,629,258
c. Funding Ratio	103.19%	99.12%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$ 110,822,777	$ 122,544,915
b. Actuarial Accrued Liability (Table 9)	107,951,877	124,210,384
c. Funding Ratio	102.66%	98.66%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$ 133,388,342	$ 148,810,134
b. Current and Expected Future Benefit Obligations	130,517,442	150,475,603
c. Funding Ratio	102.20%	98.89%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3A)	117	119
b. Projected Annual Benchmark Earnings	$ 9,069,840	$ 9,668,988
c. Average Annual Benchmark Earnings (Actual dollars)	$ 77,520	$ 81,252
d. Average Age	39.1	39.0
e. Average Service	11.0	10.6
f. Additional Members on Leave of Absence	-	-
2. Others		
a. Service Retirements (Table 4)	135	141
b. Disability Retirements (Table 5)	15	9
c. Survivors (Table 6)	21	24
d. Deferred Retirements (Table 3B)	13	18
e. Terminated Other Non-Vested (Table 7)	-	-
f. Total	184	192

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 69.77 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 99.12%. The corresponding ratio for the prior year was 103.19%.

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 used by the State. For 2012 the ratio is 98.66%, which is a decrease from the 2012 value of 102.66%.

The *Projected Benefit Funding Ratio* is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 98.89% shows that the current statutory contributions have a small gap from full funding.

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, 2012, less liabilities payable as of December 31, 2012. The calculation of the actuarial value of assets is shown in Table 1.

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 some sections 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 – a benchmark 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 Bloomington Fire Department Relief Association to determine funding requirements 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 benchmark 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 A5, column 1, of Table 9).

An unfunded actuarial accrued liability, Table 9, 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.

For the first plan year in which current assets are less than the actuarial accrued liability, an initial base is established equal to the initial unfunded actuarial accrued liability (UAAL) and is amortized as a level dollar amount over 20 years. For subsequent years in which the UAAL exceeds $0, bases will be established for actuarial losses, assumption changes, and plan amendments to be amortized over 20 years as a level dollar amount from the date of the establishment of the base and will be incorporated into the required contribution development.

If however, 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. In addition, all previously unamortized bases that existed at the beginning of the plan year prior to the attainment of current assets exceeding actuarial accrued liabilities shall be considered fully amortized at the end of that prior plan year.

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.

Determination of Minimum Bloomington Obligation (Table 11)
This report determines the Minimum Bloomington Obligation. This amount is the Relief Association's Financial Requirement, less the amounts paid by Member and State of Minnesota contributions.

The required contributions, set forth in Chapter 69, 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 estimate of the current year minimum obligation of $2,654,554 for the City of Bloomington.

GASB disclosure information (Tables 14 and 15)

Disclosure under GASB Statements No. 25 and No. 27 became effective beginning with the 1997 fiscal year end. Required disclosure items are included in Tables 14 and 15. In addition, the Tables include disclosure information contained in GASB Statements No. 25 and No. 27.

Changes in actuarial assumptions
The mortality assumption was changed from the 1971 Group Annuity Male Mortality Table, without margins, projected to 1976 by Scale E and setback seven years for females to:

- the RP 2000 non-annuitant generational mortality table with white collar adjustment, set back two years for males and females for healthy pre-retirement mortality,
- the RP 2000 annuitant generational mortality table with white collar adjustment for males and females for healthy post-retirement mortality,
- and the RP 2000 healthy annuitant mortality table with white collar adjustment, set forward eight years for males and females for disabled mortality.

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

We have added an assumption for mortality improvement in the new mortality assumption. The new assumption assumes continuous improvement in mortality throughout an individual's life for each year since 2000.

We recommend an assessment be performed to determine if any assumptions need to be updated as of January 1, 2014 following the requirements of Section 356.215, Subdivision 18, Establishment of actuarial assumptions for the actuarial valuation of the Fund.

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, 2013

	Market Value
A. ASSETS	
1. Cash, Equivalents, Short-Term Securities	$ 11,235
2. Investments	
a. Fixed Income	-
b. Equity	-
c. Real Estate	-
3. Other Assets	122,902,554
B. TOTAL ASSETS	$ 122,913,789
C. AMOUNTS CURRENTLY PAYABLE	$ (368,874)
D. ASSETS AVAILABLE FOR BENEFITS	
1. Total Assets	$ 122,544,915
2. Unrestricted Fund Balance	-
3. Total Assets Available for Benefits	$ 122,544,915
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	$ 122,913,789
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS	
1. Market Value of Assets Available for Benefits (D.3)	$ 122,544,915
2. Actuarial Value of Assets (F.1)	$ 122,544,915

Bloomington Fire Department Relief Association
Change in Assets Available for Benefits

December 31, 2012

		Market Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$	110,822,777
B. OPERATING REVENUES		
1. Member Contributions	$	-
2. State of Minnesota Contributions		361,567
3. City of Bloomington Contributions		1,852,639
4. Investment Income		361,326
5. Investment Expenses		(122,287)
6. Net Gain / (Loss)		13,568,256
7. Other		-
8. Total Operating Revenue	$	16,021,501
C. OPERATING EXPENSES		
1. Service Retirements	$	(4,211,880)
2. Disability Benefits[1]		-
3. Survivor Benefits[1]		-
4. Refunds		-
5. Administrative Expenses		(87,483)
6. Total Operating Expenses	$	(4,299,363)
D. OTHER CHANGES IN RESERVES	$	368,874
E. ASSETS AND PAYABLES AT END OF PERIOD	$	122,913,789

[1] Included in Item (C.1)

Bloomington Fire Department Relief Association

TABLE 3A

Active Members as of December 31, 2012

Participant Count

Age	YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0-24	1	1	1	-	-	-	-	-	3
25-29	3	3	6	-	-	-	-	-	12
30-34	1	1	12	4	1	-	-	-	19
35-39	-	3	9	14	2	1	-	-	29
40-44	1	-	4	10	13	2	-	-	30
45-49	-	1	1	7	6	4	-	-	19
50-54	-	-	-	1	4	-	-	-	5
55-59	-	-	-	1	1	-	-	-	2
60-64	-	-	-	-	-	-	-	-	-
65+	-	-	-	-	-	-	-	-	-
All	6	9	33	37	27	7	-	-	119

TABLE 3B

Deferred Vested Members as of December 31, 2012

Participant Count

Age	YEARS OF RETIREMENT <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
<50	18	-	-	-	-	-	-	-	18
50-54	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-
65-69	-	-	-	-	-	-	-	-	-
70-74	-	-	-	-	-	-	-	-	-
75-79	-	-	-	-	-	-	-	-	-
80-84	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-
All	18	-	-	-	-	-	-	-	18

Bloomington Fire Department Relief Association

TABLE 4

Service Retired Members as of December 31, 2012

Participant Count

YEARS OF RETIREMENT

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
<50	-	-	-	-	-	-	-	-	-
50-54	1	10	1	1	2	-	-	-	15
55-59	-	4	18	3	2	-	1	-	28
60-64	-	1	6	15	1	-	-	-	23
65-69	-	-	-	9	13	1	-	-	23
70-74	-	-	-	-	3	26	-	2	31
75-79	-	-	-	1	-	-	10	3	14
80-84	-	-	-	-	-	-	1	3	4
85+	-	-	-	-	-	-	-	3	3
All	1	15	25	29	21	27	12	11	141

TABLE 5

Disabled Members as of December 31, 2012

Participant Count

YEARS OF RETIREMENT

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
<50	-	1	5	-	-	-	-	-	6
50-54	-	2	1	-	-	-	-	-	3
55-59	-	-	-	-	-	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-
65+	-	-	-	-	-	-	-	-	-
All	-	3	6	-	-	-	-	-	9

TABLE 6

Survivor Members as of December 31, 2012

Participant Count

YEARS OF RETIREMENT

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
<50	-	-	-	-	-	-	-	-	-
50-54	-	-	-	-	-	-	-	-	-
55-59	-	-	-	-	-	-	-	-	-
60-64	1	-	-	-	1	-	-	-	2
65-69	3	-	-	-	-	-	-	-	3
70-74	5	1	-	-	-	-	1	-	7
75-79	-	2	1	1	-	-	-	-	4
80-84	1	-	-	1	-	-	-	2	4
85+	-	-	3	-	-	-	-	1	4
All	10	3	4	2	1	-	1	3	24

Bloomington Fire Department Relief Association

TABLE 7

Reconciliation of Members

		Actives	Deferred Retirement
A.	ON JANUARY 1, 2012	117	13
B.	ADDITIONS	7	6
C.	DELETIONS		
	1. Service Retirement	(1)	(1)
	2. Disability	(1)	
	3. Death – Survivor		
	4. Death – Other		
	5. Terminated – Deferred	(6)	
	6. Terminated – Refund		
	7. Terminated - Other Non-Vested	-	
	8. Leave of Absence		
	9. Returned as Active	3	-
D.	DATA ADJUSTMENTS		
	Vested	7	18
	Non-Vested	112	-
E.	TOTAL ON DECEMBER 31, 2012	119	18

		Recipients		
		Retirement Annuitants	Disabled	Survivors
A.	ON JANUARY 1, 2012	135	15	21
B.	ADDITIONS	2	1	3
C.	DELETIONS			
	1. Service Retirement			
	2. Death	(3)		-
	3. Annuity Expired			
	4. Returned as Active			
D.	DATA ADJUSTMENTS	7	(7)	
E.	TOTAL ON DECEMBER 31, 2012	141	9	24

Bloomington Fire Department Relief Association
Actuarial Balance Sheet

January 1, 2013

	Non-Vested	Vested	Total
A. CURRENT ASSETS (Table 1; Line F.2)			$ 122,544,915
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Statutory Supplemental Contributions			$ -
2. Present Value of Future Normal Costs			26,265,219
3. Total Expected Future Assets			26,265,219
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$ 148,810,134
D. CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
1. Benefit Recipients			
a. Retirement Annuities		$ 67,091,102	$ 67,091,102
b. Disability Benefits		5,153,534	5,153,534
c. Surviving Spouse and Child Benefits		5,249,682	5,249,682
2. Deferred Retirements		12,265,765	12,265,765
3. Former Members Without Vested Rights		-	-
4. Active Members			
a. Retirement Annuities	$ 26,249,012	4,105,030	30,354,042
b. Disability Benefits	2,979,697	-	2,979,697
c. Surviving Spouse and Child Benefits	183,212	-	183,212
d. Deferred Retirements	263,313	88,911	352,224
e. Refund Liability Due to Death or Withdrawal	-	-	-
5. Total Current Benefit Obligations	$ 29,675,234	$ 93,954,024	$ 123,629,258
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			$ 26,846,345
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$ 150,475,603
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D.5 - A)			$ 1,084,343
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F - C)			$ 1,665,469

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

January 1, 2013

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Benefits	$ 51,800,107	$ 20,605,866	$ 31,194,241
b. Disability Benefits	7,833,161	5,027,601	2,805,560
c. Surviving Spouse and Child Benefits	505,657	378,474	127,183
d. Deferred Retirements	576,595	253,278	323,317
e. Refund Liability Due to Death or Withdrawal	-	-	-
f. Total	$ 60,715,520	$ 26,265,219	$ 34,450,301
2. Deferred Retirements	$ 12,265,765		$ 12,265,765
3. Former Members Without Vested Rights	-		-
4. Annuitants	77,494,318		77,494,318
5. Total	$ 150,475,603	$ 26,265,219	$ 124,210,384
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. Actuarial Accrued Liability (A.5)			$ 124,210,384
2. Current Assets (Table 1; Line F.2)			122,544,915
3. Unfunded Actuarial Accrued Liability (B.1 - B.2)			$ 1,665,469
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Level Dollar Amortization Factor to December 31, 2033			12.16
2. Supplemental Contribution (B.3 / C.1)			$ 136,963
3. Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:			$ 9,668,988
4. Supplemental Contribution Rate [C.2 / C.3]			1.42%

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

December 31, 2012

A. UAAL AT BEGINNING OF YEAR	$	(2,870,900)
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING		
1. Normal Cost and Expenses	$	2,486,891
2. Contributions		(2,214,206)
3. Interest		(89,467)
4. Total	$	183,218
C. EXPECTED UAAL AT END OF YEAR (A + B.4)	$	(2,687,682)
D. INCREASE / (DECREASE) DUE TO ACTUARIAL LOSSES / (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED		
1. Age and Service Retirements[1]	$	-
2. Disability Retirements[1]		-
3. Death-in-Service Benefits[1]		-
4. Withdrawal[1]		-
5. Benchmark Salary Increases and COLA		(363,446)
6. Contribution Income[2]		-
7. Investment Income		(7,220,483)
8. Mortality of Annuitants		82,002
9. Other Items		240,549
10. Total	$	(7,261,378)
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.10)	$	(9,949,060)
F. CHANGE IN UAAL DUE TO PLAN AMENDMENTS		-
G. CHANGE IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS		11,614,529
H. UAAL AT END OF YEAR (E + F + G)	$	1,665,469

[1] Included in Item D.9.
[2] Included in Item D.7.

Bloomington Fire Department Relief Association
Determination of Minimum Bloomington Obligation

January 1, 2013

	Percent of Benchmark Payroll	Dollar Amount
A. RELIEF ASSOCIATION FINANCIAL REQUIREMENTS - SECTION 69.77		
1. Normal Cost		
a. Retirement Benefits	22.55%	$ 2,181,159
b. Disability Benefits	5.63%	543,944
c. Surviving Spouse and Child Benefits	0.43%	41,474
d. Deferred Retirements	0.23%	22,036
e. Refund Liability Due to Death or Withdrawal	-	-
f. Total	28.84%	$ 2,788,613
2. Supplemental Contribution Amortization	1.41%	136,963
3. Allowance for Administrative Expenses	0.94%	90,545
4. Total	31.19%	$ 3,016,121
B. MINIMUM BLOOMINGTON OBLIGATION - SECTION 69.77		
1. State of Minnesota Contributions	3.74%	361,567
2. City of Bloomington Contributions (A.4 - B.1)	27.45%	2,654,554

Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date: $ 9,668,988

Bloomington Fire Department Relief Association
Summary of Actuarial Assumptions and Methods

Interest:	6.00% per annum
Mortality:	Pre-retirement: RP 2000 non-annuitant generational mortality table with white collar adjustment, set back two years for males and females. Post-retirement: RP 2000 annuitant generational mortality table with white collar adjustment, for males and females. Post-disability: RP 2000 non-annuitant mortality table with white collar adjustment, set forward eight years for males and females.
Retirement age:	Members are assumed to retire after attaining age 50 and completing 20 years of service.
Separation:	Graded rates shown in the rate table.
Disability:	Graded rates shown in the rate table.
Social Security:	N/A
Index Salary increases (for certain Bloomington Patrol Officers):	2.00% for 2013 and 4.0% per annum thereafter.
COLA increases:	Based on increases in Index Salary.
Actuarial cost method:	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.
Asset valuation method:	Market value. Trusteed funds are reported by Union Bank and Trust Company and Wells Fargo Advisors, LLC. The Plan's accountant reported cash and checking accounts.
Member contributions:	None.
City of Bloomington Contributions:	Relief Association financial requirements less State of Minnesota Contributions. See Table 11 for development.

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

State of Minnesota contributions:	Prior year State of Minnesota contribution.
Payment on the unfunded accrued liability:	For the first plan year in which current assets are less than the actuarial accrued liability, an initial base is established equal to the initial unfunded actuarial accrued liability (UAAL) and is amortized as a level dollar amount over 20 years. For subsequent years in which the UAAL exceeds $0, bases will be established for actuarial losses, assumption changes, and plan amendments to be amortized over 20 years as a level dollar amount from the date of the establishment of the base and will be incorporated into the required contribution development. Otherwise, 10% of the excess of current assets over the actuarial accrued liability is treated as a supplemental credit and any amortization bases that existed prior to the plan's current assets exceeding the actuarial accrued liabilities are considered fully amortized.[1]
Administrative expenses:	Prior year administrative expenses (excluding investment expenses) increased by 3.5%.
Family composition:	100% of active 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.
Form of payment:	75% Joint and survivor annuity (fully subsidezed), life annuity if single.
Duty assumption:	For purposes of valuing the disability and death benefits an assumption of 75% of the effected population as on-duty and 25% non-duty.

[1] Per Minnesota Session Laws 1994,Regular Session, Chapter 541, Section 2. It is Milliman's understanding that this Bloomington special law provision remains valid.

Missing data:	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 $2,192.00 / month.

Benchmark salary: Each member is assumed to earn the same salary as Bloomington police patrol officers of the highest grade.

2013	$6,771
2012	6,557
2011	6,397

Date of most recent experience study: Unknown

Benefit not valued: $500 lump sum death benefit

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

Separations Expressed as the Number of Occurrences per 10,000

Age	Withdrawal	Disability
20	300	24
21	290	24
22	280	24
23	270	24
24	260	24
25	250	24
26	240	24
27	230	24
28	220	24
29	210	24
30	200	24
31	190	24
32	180	24
33	170	24
34	160	26
35	150	30
36	140	34
37	130	40
38	120	46
39	110	52
40	100	58
41	90	64
42	80	74
43	70	84
44	60	96
45	50	110
46	40	128
47	30	142
48	20	158
49	10	174
50+	-	-

TABLE 13

Bloomington Fire Department Relief Association
Summary of Plan Provisions

GENERAL

Eligibility:	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.
Membership dues:	None.
Index salary:	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.
Basic benefit:	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:

Eligibility:	Age 50 with 20 years of service.
Amount:	Basic benefit.
Form of payment:	Fully subsidized 75% Joint and survivor if married, life annuity if single.

Disability benefit:

Eligibility:	Inability to perform the duties of a firefighter.
Duty related amount:	Basic benefit is payable at time of disability. This benefit is payable during the period of disability. After attainment of age 50 and 20 combined years of service and disability payments, no evidence of disability is required for the benefit to continue.
Non-duty related amount:	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 and 20 combined years of service and disability payments, no evidence of disability is required for the benefit to continue.

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

Form of payment:	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, 2013

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (B)	Unfunded AAL (UAAL) (B)-(A)	Funded Ratio (A)/(B)	Benchmark Payroll[1] (Previous FY) (C)	UAAL as % of Covered Payroll ((B)-(A))/(C)
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%)
01/01/06	105,139,140	84,681,811	(20,457,329)	124.16%	8,721,504	(234.56%)
01/01/07	116,978,895	87,345,954	(29,632,941)	133.93%	8,672,256	(341.70%)
01/01/08	122,158,440	93,293,969	(28,864,471)	130.94%	9,970,800	(289.49%)
01/01/09	88,639,493	97,105,335	8,465,842	91.28%	10,235,736	82.71%
01/01/10	98,707,362	99,697,775	990,413	99.01%	9,790,704	10.12%
01/01/11	111,072,465	105,372,331	(5,700,134)	105.41%	10,059,924	(56.66%)
01/01/12	110,822,777	107,951,877	(2,870,900)	102.66%	9,069,840	(31.65%)
01/01/13	122,544,915	124,210,384	1,665,469	98.66%	9,668,988	17.22%

[1]Imputed based on estimated Bloomington police officer earnings.

The actuarial value of assets is the fair value of investments, adjusted for receivables and payables.

The above schedule of funding progress presents multi-year trend information about whether the actuarial value of assets is increasing or decreasing over time, relative to the actuarial accrued liability for benefits.

The results do not incorporate any legal or contractual funding limitations.

Bloomington Fire Department Relief Association

Schedule of Employer Contributions

January 1, 2013

Year Ended December 31	Actuarially Required Contribution Rate (A)	Benchmark Payroll[1] (B)	Actual Member Contributions (C)	Annual Required Contributions [(A)*(B)]-(C)	Actual Employer Contributions[2]	Percentage Contributed
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%
2005	16.16%	8,517,612	-	1,376,446	2,162,105	157.08%
2006	4.15%	8,721,504	-	361,942	1,447,591	399.95%
2007	(6.00%)	8,672,256	-	(520,335)	517,023	(99.36%)
2008	(1.51%)	9,970,800	-	(150,559)	439,902	(292.18%)
2009	33.72%	10,235,786	-	3,451,507	372,096	10.78%
2010	33.87%	9,790,704	-	3,316,111	3,625,942	109.34%
2011	20.93%	10,059,924	-	2,105,542	3,486,392	165.58%
2012	24.25%	9,069,840	-	2,199,801	2,214,207	100.65%

[1] Imputed based on estimated Bloomington police officer earnings.
[2] Includes contributions from other sources (if applicable).

There is no legal or contractual maximum contribution rate.