



March 8, 2012

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**Re: Actuarial Valuation Report as of January 1, 2012
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, 2012, for the Plan Year ending December 31, 2012. 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.

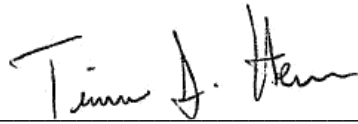
Actuarial computations under the Statutes are for purposes of determining the funded status and the contribution sufficiency for the Fund. The calculations in the enclosed report have been made on a basis consistent with our understanding of the Statutes and the Standards for Actuarial Work established 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.

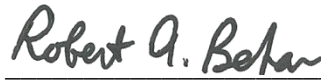
We respectfully submit this report, and we look forward to discussing it with you.

Respectfully submitted,

MILLIMAN, INC.



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



Robert A. Behar, FSA, MAAA, EA
Actuary

Bloomington Fire Department Relief Association
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TRANSMITTAL LETTER

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The work product was prepared solely for the Board of Trustees for the Bloomington Fire Department Relief Association. It may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

Bloomington Fire Department Relief Association
Report Highlights

| | <u>January 1, 2011</u> Valuation | <u>January 1, 2012</u> Valuation |
|--|-------------------------------------|-------------------------------------|
| A. CONTRIBUTIONS % OF PAYROLL (Table 11) | | |
| 1. Relief Association financial requirements - Section 69.77 | 20.93% | 24.25% |
| 2. Minimum City of Bloomington obligation - Section 69.77 | 17.70% | 20.32% |
| B. FUNDING RATIOS | | |
| 1. Accrued Benefit Funding Ratio | | |
| a. Current Assets (Table 1) | \$ 111,072,465 | \$ 110,822,777 |
| b. Current Benefit Obligations (Table 8) | <u>105,458,342</u> | <u>107,392,279</u> |
| c. Funding Ratio | 105.32% | 103.19% |
| 2. Accrued Liability Funding Ratio | | |
| a. Current Assets (Table 1) | \$ 111,072,465 | \$ 110,822,777 |
| b. Actuarial Accrued Liability (Table 9) | <u>105,372,331</u> | <u>107,951,877</u> |
| c. Funding Ratio | 105.41% | 102.66% |
| 3. Projected Benefit Funding Ratio (Table 8) | | |
| a. Current and Expected Future Assets | \$ 135,797,920 | \$ 133,388,342 |
| b. Current and Expected Future Benefit Obligations | <u>130,097,786</u> | <u>130,517,442</u> |
| c. Funding Ratio | 104.38% | 102.20% |
| C. PLAN PARTICIPANTS | | |
| 1. Active Members | | |
| a. Number (Table 3) | 127 | 117 |
| b. Projected Annual Earnings | \$ 9,747,504 | \$ 9,069,840 |
| c. Average Annual Earnings (Actual dollars) | \$ 76,752 | \$ 77,520 |
| d. Average Age | 38.8 | 39.1 |
| e. Average Service | 10.7 | 11.0 |
| f. Additional Members on Leave of Absence | - | - |
| 2. Others | | |
| a. Service Retirements (Table 4) | 131 | 135 |
| b. Disability Retirements (Table 5) | 14 | 15 |
| c. Survivors (Table 6) | 21 | 21 |
| d. Deferred Retirements (Table 7) | 11 | 13 |
| e. Terminated Other Non-Vested (Table 7) | - | - |
| f. Total | <u>177</u> | <u>184</u> |

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 103.19%. The corresponding ratio for the prior year was 105.32%.

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 102.66%, which is a decrease from the 2011 value of 105.41%.

The *Projected Benefit Funding Ratio* is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 102.20% 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, 2011, less liabilities payable as of December 31, 2011. 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 - 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 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 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 \$1,843,060 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

All actuarial assumptions are the same as those used in the prior valuation. Table 12 contains a summary of all actuarial assumptions and methods. We recommend an assessment be performed to determine if any assumptions need to be updated as of January 1, 2013 following the requirements of Section 356.215, Subdivision 18, Establishment of actuarial assumptions for the actuarial valuation of the Fund.

In particular, we note the revised edition of the Actuarial Standard of Practice Number 35 (“ASOP 35”), Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations, may require changes to the mortality assumption. This revised edition is discussed in further detail below. Instead of making changes to the mortality assumption in isolation, we recommend a review of all demographic assumptions.

The Actuarial Standards Board of the Academy of Actuaries establishes and improves standards of actuarial practice. These Actuarial Standards of Practice (ASOPs) identify what the actuary should consider, document, and disclose when performing an actuarial assignment. Standards of practice are in place to assure the public that actuaries are professionally accountable. At the same time, the standards provide practicing actuaries with a basis for assuring that their work will conform to appropriate practices. Written

standards of practice, coupled with written provisions for disciplining members, show that the profession governs itself and takes an active interest in protecting the public.

ASOP 35 governs the selection of demographic and other noneconomic assumptions for measuring pension obligations. A revised edition of this standard was adopted by the Actuarial Standards Board of the American Academy of Actuaries in September 2010. This standard is applicable to Members of the American Academy of Actuaries and is effective for any actuarial valuation with a measurement date on or after June 30, 2011.

One particular item of which the Board should be aware is the change in ASOP 35 in Section 3.5.3 Mortality and Mortality Improvements which states:

The actuary should consider the effect of mortality improvement both prior to and subsequent to the measurement date. With regard to mortality improvement, the actuary should do the following:

- i. adjust mortality rates to reflect mortality improvement prior to the measurement date. For example, if the actuary starts with a published mortality table, the mortality rates may need to be adjusted to reflect mortality improvement from the effective date of the table to the measurement date. Such an adjustment is not necessary if, in the actuary's professional judgment, the published mortality table reflects expected mortality rates as of the measurement date.
- ii. include an assumption as to expected mortality improvement after the measurement date. This assumption should be disclosed in accordance with section 4.1.1, even if the actuary concludes that an assumption of zero future improvement is reasonable as described in section 3.1. Note that the existence of uncertainty about the occurrence or magnitude of future mortality improvement does not by itself mean that an assumption of zero future improvement is a reasonable assumption.

There is no margin for future mortality improvement in the current mortality assumption.

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, 2012

| | Market Value | Cost Value ¹ |
|---|-----------------|----------------------------|
| A. ASSETS | | |
| 1. Cash, Equivalents, Short-Term Securities | \$ 11,389 | \$ 11,389 |
| 2. Investments | | |
| a. Fixed Income | - | - |
| b. Equity | - | - |
| c. Real Estate | - | - |
| 3. Other Assets | 111,150,306 | 96,160,641 |
| B. TOTAL ASSETS | \$ 111,161,695 | \$ 96,172,030 |
| C. AMOUNTS CURRENTLY PAYABLE | \$ (338,918) | \$ (338,918) |
| D. ASSETS AVAILABLE FOR BENEFITS | | |
| 1. Total Assets | \$ 110,822,777 | \$ 95,833,112 |
| 2. Unrestricted Fund Balance | - | - |
| 3. Total Assets Available for Benefits | \$ 110,822,777 | \$ 95,833,112 |
| E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS | \$ 111,161,695 | \$ 96,172,030 |
| F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS | | |
| 1. Market Value of Assets Available for Benefits (D.3) | \$ 110,822,777 | |
| 2. Actuarial Value of Assets (F.1) | \$ 110,822,777 | |

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

Bloomington Fire Department Relief Association
Change in Assets Available for Benefits

December 31, 2011

| | Market Value | Cost Value |
|--|-----------------|----------------|
| A. ASSETS AVAILABLE AT BEGINNING OF PERIOD | \$ 111,072,465 | \$ 96,020,294 |
| B. OPERATING REVENUES | | |
| 1. Member Contributions | \$ - | \$ - |
| 2. State of Minnesota Contributions | 356,741 | 356,741 |
| 3. City of Bloomington Contributions | 3,129,651 | 3,129,651 |
| 4. Investment Income | 331,212 | 331,212 |
| 5. Investment Expenses | (108,769) | (108,769) |
| 6. Net Realized Gain / (Loss) ¹ | 207,902 | 207,902 |
| 7. Other | - | - |
| 8. Net Change in Unrealized Gain / (Loss) ¹ | (62,506) | - |
| 9. Total Operating Revenue | \$ 3,854,231 | \$ 3,916,737 |
| C. OPERATING EXPENSES | | |
| 1. Service Retirements | \$ (4,024,149) | \$ (4,024,149) |
| 2. Disability Benefits ² | - | - |
| 3. Survivor Benefits ² | - | - |
| 4. Refunds | - | - |
| 5. Administrative Expenses | (79,770) | (79,770) |
| 6. Total Operating Expenses | \$ (4,103,919) | \$ (4,103,919) |
| D. OTHER CHANGES IN RESERVES | \$ 338,918 | \$ 338,918 |
| E. ASSETS AND PAYABLES AT END OF PERIOD | \$ 111,161,695 | \$ 96,172,030 |

¹ Actual breakdown between unrealized and realized gain was provided to Milliman, Inc. as of the year end. The cost value as of the beginning of the year was estimated based on information provided by Union Bank and Trust, Wells Fargo Advisors, LLC and the auditor.

² Included in Item (C.1)

Bloomington Fire Department Relief Association

TABLE 3A

Active Members as of December 31, 2011

| Age | Participant Count | | | | | | | TOTAL | |
|-------|-------------------|------------|------------|--------------|--------------|--------------|--------------|------------|-----|
| | YEARS OF SERVICE | | | | | | | | |
| | <u><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> | |
| 0-24 | - | 3 | - | - | - | - | - | - | 3 |
| 25-29 | - | 5 | 4 | - | - | - | - | - | 9 |
| 30-34 | - | 7 | 6 | 4 | - | - | - | - | 17 |
| 35-39 | - | 5 | 7 | 14 | 3 | - | - | - | 29 |
| 40-44 | - | 2 | 4 | 12 | 10 | 3 | - | - | 31 |
| 45-49 | - | 1 | 1 | 5 | 6 | 6 | - | - | 19 |
| 50-54 | - | - | - | 5 | 3 | - | - | - | 8 |
| 55-59 | - | - | - | - | 1 | - | - | - | 1 |
| 60-64 | - | - | - | - | - | - | - | - | - |
| 65+ | - | - | - | - | - | - | - | - | - |
| All | - | 23 | 22 | 40 | 23 | 9 | - | - | 117 |

TABLE 3B

Deferred Vested Members as of December 31, 2011

| Age | Participant Count | | | | | | | TOTAL | |
|-------|---------------------|------------|------------|--------------|--------------|--------------|--------------|------------|----|
| | YEARS OF RETIREMENT | | | | | | | | |
| | <u><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 | 13 | - | - | - | - | - | - | - | 13 |
| 50-54 | - | - | - | - | - | - | - | - | - |
| 55-59 | - | - | - | - | - | - | - | - | - |
| 60-64 | - | - | - | - | - | - | - | - | - |
| 65-69 | - | - | - | - | - | - | - | - | - |
| 70-74 | - | - | - | - | - | - | - | - | - |
| 75-79 | - | - | - | - | - | - | - | - | - |
| 80-84 | - | - | - | - | - | - | - | - | - |
| 85+ | - | - | - | - | - | - | - | - | - |
| All | 13 | - | - | - | - | - | - | - | 13 |

Bloomington Fire Department Relief Association

TABLE 4

Service Retired Members as of December 31, 2011

| Age | Participant Count | | | | | | | | TOTAL |
|-------|---------------------|------------|------------|--------------|--------------|--------------|--------------|------------|-------|
| | YEARS OF RETIREMENT | | | | | | | | |
| | <u><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 | 4 | 12 | - | - | - | - | - | - | 16 |
| 55-59 | - | 6 | 21 | 3 | 1 | - | 1 | - | 32 |
| 60-64 | - | - | 5 | 14 | 2 | - | - | - | 21 |
| 65-69 | - | - | - | 4 | 25 | - | - | - | 29 |
| 70-74 | - | - | - | 1 | - | 17 | - | 3 | 21 |
| 75-79 | - | - | - | - | - | 1 | 6 | 4 | 11 |
| 80-84 | - | - | - | - | - | - | - | 2 | 2 |
| 85+ | - | - | - | - | - | - | - | 3 | 3 |
| All | 4 | 18 | 26 | 22 | 28 | 18 | 7 | 12 | 135 |

TABLE 5

Disabled Members as of December 31, 2011

| Age | Participant Count | | | | | | | | TOTAL |
|-------|---------------------|------------|------------|--------------|--------------|--------------|--------------|------------|-------|
| | YEARS OF RETIREMENT | | | | | | | | |
| | <u><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 | 3 | - | - | - | - | - | 6 |
| 50-54 | 1 | 1 | 2 | 1 | 1 | - | - | - | 6 |
| 55-59 | - | - | 1 | 1 | - | - | - | - | 2 |
| 60-64 | - | - | 1 | - | - | - | - | - | 1 |
| 65+ | - | - | - | - | - | - | - | - | - |
| All | 1 | 4 | 7 | 2 | 1 | - | - | - | 15 |

TABLE 6

Survivor Members as of December 31, 2011

| Age | Participant Count | | | | | | | | TOTAL |
|-------|---------------------|------------|------------|--------------|--------------|--------------|--------------|------------|-------|
| | YEARS OF RETIREMENT | | | | | | | | |
| | <u><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 | - | - | - | - | - | - | - | - | - |
| 60-64 | 2 | - | - | 1 | - | - | - | - | 3 |
| 65-69 | 3 | - | - | - | - | - | - | - | 3 |
| 70-74 | 2 | - | - | - | - | 1 | - | - | 3 |
| 75-79 | 1 | 1 | 2 | 1 | - | - | - | 1 | 6 |
| 80-84 | 1 | 1 | - | - | - | - | - | 1 | 3 |
| 85+ | - | - | 2 | - | - | - | - | 1 | 3 |
| All | 9 | 2 | 4 | 2 | - | 1 | - | 3 | 21 |

Bloomington Fire Department Relief Association

TABLE 7

Reconciliation of Members

| | Actives | Terminated | |
|----------------------------------|---------|---------------------|------------------|
| | | Deferred Retirement | Other Non-Vested |
| A. ON JANUARY 1, 2011 | 127 | 11 | |
| B. ADDITIONS | - | 4 | |
| C. DELETIONS | | | |
| 1. Service Retirement | (4) | (2) | |
| 2. Disability | (1) | | |
| 3. Death – Survivor | | | |
| 4. Death – Other | | | |
| 5. Terminated – Deferred | (4) | | |
| 6. Terminated – Refund | | | |
| 7. Terminated - Other Non-Vested | (1) | | |
| 8. Leave of Absence | | | |
| 9. Returned as Active | - | - | |
| D. DATA ADJUSTMENTS | | | |
| Vested | 9 | 13 | |
| Non-Vested | 108 | - | |
| E. TOTAL ON DECEMBER 31, 2011 | 117 | 13 | |

| | Recipients | | |
|-------------------------------|-----------------------|----------|-----------|
| | Retirement Annuitants | Disabled | Survivors |
| A. ON JANUARY 1, 2011 | 131 | 14 | 21 |
| B. ADDITIONS | 6 | 1 | 2 |
| C. DELETIONS | | | |
| 1. Service Retirement | | | |
| 2. Death | (2) | | (2) |
| 3. Annuity Expired | | | |
| 4. Returned as Active | | | |
| D. DATA ADJUSTMENTS | | | |
| E. TOTAL ON DECEMBER 31, 2011 | 135 | 15 | 21 |

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

January 1, 2012

| | | | |
|--|----------------------|-----------------------|-----------------------|
| A. CURRENT ASSETS (Table 1; Line F.2) | | \$ 110,822,777 | |
| B. EXPECTED FUTURE ASSETS | | | |
| 1. Present Value of Expected Future Statutory Supplemental Contributions | | \$ - | |
| 2. Present Value of Future Normal Costs | | 22,565,565 | |
| 3. Total Expected Future Assets | | <u>22,565,565</u> | |
| C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS | | <u>\$ 133,388,342</u> | |
| D. CURRENT BENEFIT OBLIGATIONS | | | |
| | <u>Non-Vested</u> | <u>Vested</u> | <u>Total</u> |
| 1. Benefit Recipients | | | |
| a. Retirement Annuities | | \$ 57,268,014 | \$ 57,268,014 |
| b. Disability Benefits | | 7,134,071 | 7,134,071 |
| c. Surviving Spouse and Child Benefits | | 4,238,404 | 4,238,404 |
| 2. Deferred Retirements | | 7,488,329 | 7,488,329 |
| 3. Former Members Without Vested Rights | | - | - |
| 4. Active Members | | | |
| a. Retirement Annuities | \$ 21,902,872 | 5,291,602 | 27,194,474 |
| b. Disability Benefits | 3,110,920 | - | 3,110,920 |
| c. Surviving Spouse and Child Benefits | 591,846 | - | 591,846 |
| d. Deferred Retirements | 276,601 | 89,620 | 366,221 |
| e. Refund Liability Due to Death or Withdrawal | - | - | - |
| 5. Total Current Benefit Obligations | <u>\$ 25,882,239</u> | <u>\$ 81,510,040</u> | <u>\$ 107,392,279</u> |
| E. EXPECTED FUTURE BENEFIT OBLIGATIONS | | | <u>\$ 23,125,163</u> |
| F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS | | | <u>\$ 130,517,442</u> |
| G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D.5 - A) | | | \$ (3,430,498) |
| H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F - C) | | | \$ (2,870,900) |

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

January 1, 2012

| | <u>Actuarial Present Value of Projected Benefits</u> | <u>Actuarial Present Value of Future Normal Costs</u> | <u>Actuarial Accrued Liability</u> |
|---|--|---|--|
| A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL) | | | |
| 1. Active Members | | | |
| a. Retirement Benefits | \$ 44,790,973 | \$ 16,779,679 | \$ 28,011,294 |
| b. Disability Benefits | 7,545,817 | 4,592,864 | 2,952,953 |
| c. Surviving Spouse and Child Benefits | 1,487,037 | 961,427 | 525,610 |
| d. Deferred Retirements | 564,797 | 231,595 | 333,202 |
| e. Refund Liability Due to Death or Withdrawal | - | - | - |
| f. Total | <u>\$ 54,388,624</u> | <u>\$ 22,565,565</u> | <u>\$ 31,823,059</u> |
| 2. Deferred Retirements | \$ 7,488,329 | | \$ 7,488,329 |
| 3. Former Members Without Vested Rights | - | | - |
| 4. Annuitants | 68,640,489 | | 68,640,489 |
| 5. Total | <u>\$ 130,517,442</u> | <u>\$ 22,565,565</u> | <u>\$ 107,951,877</u> |
| B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL) | | | |
| 1. Actuarial Accrued Liability (A.5) | | | \$ 107,951,877 |
| 2. Current Assets (Table 1; Line F.2) | | | 110,822,777 |
| 3. Unfunded Actuarial Accrued Liability (B.1 - B.2) | | | <u>\$ (2,870,900)</u> |
| C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE | | | |
| 1. Level Dollar Amortization Factor to December 31, 2032 | | | N/A |
| 2. Supplemental Contribution | | | |
| a. Amortization of Initial Unfunded Actuarial Accrued Liability | | | N/A |
| b. Amortization of Loss (Table 10.K) | | | N/A |
| c. Supplemental Contribution, equal to (C.2.a + C.2.b, or \$0 if UAAL is less than \$0) | | | \$ - |
| 3. Supplemental Credit for Surplus Assets (10% * B.3) | | | \$ (287,090) |
| 4. Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date: | | | 9,069,840 |
| 5. Supplemental Contribution Rate (C.3 / C.4) | | | (3.17%) |

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

December 31, 2011

| | |
|---|-----------------------|
| A. UAAL AT BEGINNING OF YEAR | \$ (5,700,134) |
| B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING | |
| 1. Normal Cost and Expenses | \$ 2,676,054 |
| 2. Contributions | (3,486,392) |
| 3. Interest | (286,037) |
| 4. Total | <u>\$ (1,096,375)</u> |
| C. EXPECTED UAAL AT END OF YEAR (A + B.4) | \$ (6,796,509) |
| 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. Salary Increases and COLA | (3,242,087) |
| 6. Contribution Income ² | - |
| 7. Investment Income | 6,277,983 |
| 8. Mortality of Annuitants | 206,894 |
| 9. Other Items | 682,819 |
| 10. Total | <u>\$ 3,925,609</u> |
| E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.10) | \$ (2,870,900) |
| 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>\$ (2,870,900)</u> |
| I. (GAIN)/LOSS DURING THE YEAR (H - C) | <u>\$ 3,925,609</u> |
| J. LEVEL DOLLAR AMORTIZATION FACTOR | N/A |
| K. AMORTIZATION AMOUNT OF THE LOSS (NOT APPLICABLE IF GAIN) | <u>N/A</u> |

¹ Included in Item D.9.

² Included in Item D.7.

**Bloomington Fire Department Relief Association
Determination of Minimum Bloomington Obligation**

January 1, 2012

| | <u>Percent of Payroll</u> | <u>Dollar Amount</u> |
|---|-------------------------------|----------------------|
| A. RELIEF ASSOCIATION FINANCIAL REQUIREMENTS - SECTION 69.77 | | |
| 1. Normal Cost | | |
| a. Retirement Benefits | 19.69% | \$ 1,785,653 |
| b. Disability Benefits | 5.45% | 494,676 |
| c. Surviving Spouse and Child Benefits | 1.14% | 103,259 |
| d. Deferred Retirements | 0.23% | 20,741 |
| e. Refund Liability Due to Death or Withdrawal | - | - |
| f. Total | <u>26.51%</u> | <u>\$ 2,404,329</u> |
| 2. Supplemental Contribution Amortization | (3.17%) | (287,090) |
| 3. Allowance for Administrative Expenses | 0.91% | 82,562 |
| 4. Total | <u>24.25%</u> | <u>\$ 2,199,801</u> |
| B. MINIMUM BLOOMINGTON OBLIGATION - SECTION 69.77 | | |
| 1. Member Contributions | - | \$ - |
| 2. State of Minnesota Contributions | 3.93% | 356,741 |
| 3. City of Bloomington Contributions (A.4 - B.1 - B.2) | <u>20.32%</u> | <u>1,843,060</u> |
| Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date: | | \$ 9,069,840 |

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

| | |
|---|--|
| <i>Interest:</i> | 6.00% 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> | 4.0% per annum. |
| <i>COLA increases:</i> | 4.0% 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 and Wells Fargo Advisors, LLC. The Plan's accountant reported cash and checking accounts. |
| <i>Member contributions:</i> | None. |
| <i>City of Bloomington Contributions:</i> | Relief Association financial requirements less Member Contributions. See Table 11 for development. |

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

| | |
|---|--|
| <i>State of Minnesota contributions:</i> | Prior year State of Minnesota contribution. |
| <i>Payment on the unfunded accrued liability:</i> | <p>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.</p> <p>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.</p> <p>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</p> |
| <i>Administrative expenses:</i> | Prior year administrative expenses (excluding investment expenses) increased by 3.5%. |
| <i>Family composition:</i> | 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. |
| <i>Form of payment:</i> | 75% Joint and survivor annuity, life annuity if single. |
| <i>Duty assumption:</i> | 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.

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

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 \$2,127.00 / month. |

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

| | |
|------|----------|
| 2012 | \$6,460* |
| 2011 | 6,396 |
| 2010 | 6,286 |

* Estimated

Date of most recent experience study: Unknown

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 and 20 combined years of service and disability payments, 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 and 20 combined years of service and disability payments, no evidence of disability is required for the benefit to continue. |

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, 2012

| Actuarial Valuation Date | Actuarial Value of Assets (A) | Actuarial Accrued Liability (B) | Unfunded AAL (UAAL) (B)-(A) | Funded Ratio (A)/(B) | Actual Covered 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%) |

¹Imputed 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, 2012

| Year Ended December 31 | Actuarially Required Contribution Rate (A) | Actual Covered 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% |

¹Imputed based on estimated Bloomington police officer earnings.

²Includes contributions from other sources (if applicable).

There is no legal or contractual maximum contribution rate.