

CITY OF SIOUX FALLS FIREFIGHTERS' PENSION FUND
FIFTY-SEVENTH ANNUAL ACTUARIAL VALUATION REPORT
DECEMBER 31, 2012

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April 3, 2013

The Retirement Board
City of Sioux Falls Firefighters' Pension Fund
Sioux Falls, South Dakota

Ladies and Gentlemen:

The results of the December 31, 2012 actuarial valuation of the City of Sioux Falls Firefighters' Pension Fund are presented in this report. Both this report and the Power Point Presentation to the Board comprise the valuation results. The purpose of the valuation was to measure the System's funding progress, provide actuarial information in connection with applicable Governmental Accounting Standards Board Statements and to determine the employer contribution for the fiscal year beginning January 1, 2014. This report should not be relied upon for any other purpose. This report may be distributed to parties other than the Retirement Board only in its entirety and only with the permission of the Board.

The valuation was based upon information, furnished by your Secretary, concerning Retirement System benefits, financial transactions, individual members, terminated members, retirees and beneficiaries. Data was checked for internal and year to year consistency, but was not otherwise audited by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the data provided.


Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.

To the best of our knowledge, this report is complete and accurate and the valuation was conducted in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with the applicable state statutes. The undersigned are independent of the plan sponsor and are members of the American Academy of Actuaries (MAAA) who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the actuarial assumptions used for the valuation produce results which are reasonable.

Respectfully submitted,



Louise M. Gates, ASA, MAAA



Mark Buis, FSA, EA, MAAA

LMG/MB:mrb

SECTION A
VALUATION RESULTS

FINANCIAL OBJECTIVE

The financial objective of the Pension Fund is to establish and receive contributions that will accumulate reserves during members' working lifetimes which will be sufficient to pay promised benefits throughout retirement.

CONTRIBUTION RATES

The Pension Fund is supported by member contributions, City contributions, State contributions (insurance premium taxes) and investment income from Pension Fund assets.

Contributions which satisfy the financial objective are determined by an annual actuarial valuation and are sufficient to:

- (1) cover the actuarial present value of benefits assigned to the current year by the actuarial cost methods described in Section C (the normal cost); and
- (2) amortize over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (unfunded actuarial accrued liability).

Pension contribution requirements for the year beginning January 1, 2014 are shown on page A-2.

**CONTRIBUTIONS COMPUTED TO MEET THE
FINANCIAL OBJECTIVE OF THE PENSION FUND
FOR THE FISCAL YEAR BEGINNING JANUARY 1, 2014
(INCLUDING STATE CONTRIBUTIONS)**

| <u>Contributions for</u> | <u>Contribution Requirements</u> |
|--|----------------------------------|
| Total Normal Cost | \$3,051,783 |
| Employee Portion | 1,081,340 |
| City-State Portion | 1,970,443 |
| Unfunded Actuarial Accrued Liabilities Contribution | \$2,513,813 |
| Total Computed City-State Contribution | \$4,484,256 |

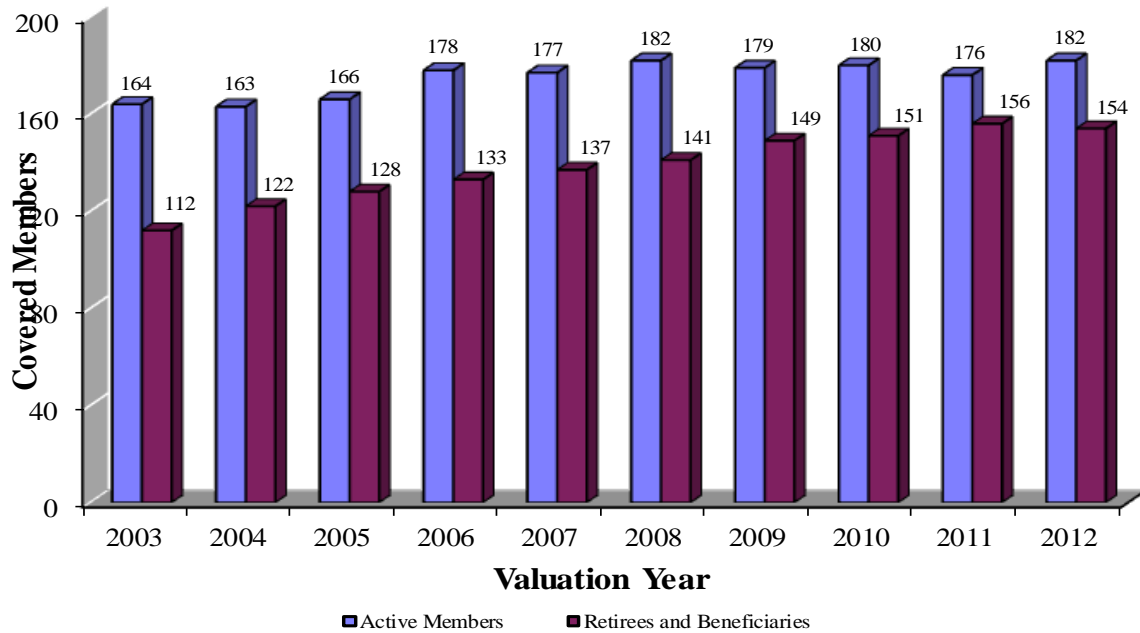
City Firefighter employees hired on or after July 1, 2013 will become members of the South Dakota Retirement System (SDRS) instead of joining the Pension Fund. Contributions are expressed in terms of dollars in this report instead of as percents of payroll. This is due to the use of the level dollar amortization method (appropriate for systems closed to new hires) to finance the Pension Fund's unfunded actuarial accrued liabilities (UAAL).

The Pension Fund's UAAL was amortized as a level dollar amount over a period of 25 years.

The employee contribution to the Pension Fund shown above was based on an employee contribution rate of 9.0% and plan member payroll projected to 2014.

The employer contribution shown above includes contributions for the stipend benefit (which will become effective January 1, 2014).

ACTIVE AND RETIRED PENSION FUND MEMBERS



The chart above shows current and future pension benefit recipients on each valuation date during the last 10 years.

**COMPUTED CITY-STATE PENSION CONTRIBUTIONS
COMPARATIVE STATEMENT**

| Fiscal Year | Valuation Date December 31 | % of Payroll Contributions | Dollar Contributions |
|------------------------|---|---------------------------------------|---------------------------------|
| 2000 | 1998 @ | 14.43 % | |
| 2001 | 1999 ** | 10.48 | |
| 2002 | 2000 ** | 7.86 | |
| 2003 | 2001 ** | 7.23 | |
| 2004 | 2002 ** | 9.31 | |
| 2005 | 2003 | 11.12 | |
| 2006 | 2004 @ | 16.21 | |
| 2007 | 2005 | 17.14 | |
| 2008 | 2006 | 15.99 | |
| 2009 | 2007 @ | 16.36 | |
| 2010 | 2008 | 19.97 | |
| 2011 | 2009 | 24.55 | |
| 2012 | 2010 | 25.21 | |
| 2013 | 2011 @ | 24.31 | |
| 2014 | 2012 @# | | \$4,484,256 |

@ After changes in actuarial assumptions or methods.
 # After changes in benefit provisions.
 ** Reflects amortization credit.

ACTUARIAL BALANCE SHEET - DECEMBER 31, 2012

Present Pension Resources and Expected Future Resources

| | | |
|----|--|-----------------------------|
| A. | Valuation assets | \$ 102,540,544 |
| B. | Actuarial present value of expected future employer contributions | |
| | 1. For normal costs | 19,552,816 |
| | 2. For unfunded actuarial accrued liabilities | <u>27,714,293</u> |
| | 3. Total | <u>47,267,109</u> |
| C. | Actuarial present value of expected future member contributions | <u>10,747,687</u> |
| D. | Total actuarial present value of present and expected future resources | <u><u>\$160,555,340</u></u> |

Actuarial Present Value of Expected Future Pension Benefit Payments and Reserves

| | | |
|----|--|-----------------------------|
| A. | To retirees and beneficiaries | \$ 82,278,462 |
| B. | To vested terminated members | 1,291,920 |
| C. | To present active members | |
| | 1. Allocated to service rendered prior to valuation date | 46,684,455 |
| | 2. Allocated to service likely to be rendered after valuation date | <u>30,300,503</u> |
| | 3. Total | <u>76,984,958</u> |
| D. | Reserves | |
| | 1. Allocated to retirants and beneficiaries | 0 |
| | 2. Unallocated investment income | 0 |
| | 3. Total | 0 |
| E. | Total actuarial present value of expected future benefit payments and reserves | <u><u>\$160,555,340</u></u> |

DERIVATION OF ACTUARIAL GAIN (LOSS) YEAR ENDED DECEMBER 31, 2012

The actuarial gains or losses realized in the operation of the Pension Fund provide an experience test. Gains and losses are expected to cancel each other over a period of years (in the absence of double-digit inflation) and sizable year to year fluctuations are common. Detail on the derivation of the actuarial gain (loss) is shown below, along with a year by year comparative schedule.

| | |
|--|--------------|
| (1) UAAL* at start of year | \$18,360,975 |
| (2) Normal cost | 1,501,831 |
| (3) Actual contributions | 2,871,209 |
| (4) Interest accrual | 1,369,912 |
| (5) Expected UAAL before changes | 18,361,509 |
| (6) Change from benefit changes | 5,006,323 |
| (7) Change from revised actuarial methods / assumptions | 3,939,602 |
| (8) Expected UAAL after changes | 27,307,434 |
| (9) Actual UAAL at end of year | 27,714,293 |
| (10) Gain (loss) (8) - (9) | (406,859) |
| (11) Gain (loss) as percent of actuarial accrued liabilities at start of year | (0.4)% |

* *Unfunded actuarial accrued liability*

| Valuation Date December 31 | Actuarial Gain (Loss) As % of Beginning Accrued Liabilities |
|---|--|
| 2003 | (2.9) % |
| 2004 | (4.3) |
| 2005 | (0.9) |
| 2006 | 1.8 |
| 2007 | 3.1 |
| 2008 | (4.6) |
| 2009 | (5.7) |
| 2010 | 0.7 |
| 2011 | (3.9) |
| 2012 | (0.4) |

COMMENTS

Comment A: Pension Fund experience was unfavorable during the 2012 plan year. During calendar year 2012 the return on the market value of assets was higher than long term expectations. The market smoothing techniques used in this valuation of the Pension Fund recognize both past and present investment experience. As a result, the recognized rate of return on pension assets was 7.6%. Details of this asset smoothing method are shown on page B-5.

Comment B: The Appendix of this report includes the results of the actuarial valuation of the retiree health program using assumptions and methods required by the Governmental Accounting Standards Board (GASB). The City's policy is to make 100% of the contributions recommended by the actuary. The Appendix of this report includes additional information about this valuation.

Comment C: This valuation of the Pension Fund recognizes the following changes in plan provisions:

- Effective January 1, 2014, the Firefighter's Retiree Health Plan will become closed to new retirees. Any individual who was a member of the Health Plan before this date may continue to participate in the Plan.
- Eligible Firefighter members of the Pension Fund who retire after December 31, 2013 will receive a stipend benefit in lieu of Retiree Health Plan benefits. The stipend benefit is described in Section B of this report.
- New City Firefighter employees hired on or after July 1, 2013 will not be eligible to join the Pension Fund. Instead, these new employees will join the South Dakota Retirement System and receive all post-retirement benefits from this system. As a result, the Pension Fund will be closed to new City employees hired on or after this date.
- Effective January 6, 2014, Firefighter employees will contribute 9% of their annual pay to the Pension Fund.

COMMENTS

Comment D: This valuation of the Pension Fund reflects changes in assumptions and methods proposed as a result of the recent study of Pension Fund experience. These changes include an update to the mortality table, withdrawal and retirement rates used in the annual valuations of the Pension Fund. A “reset” of the asset valuation method and changes to the method used to amortize unfunded liabilities of both the Pension Fund and the Retiree Health Plan are also reflected in this report. These changes are noted in Section C.

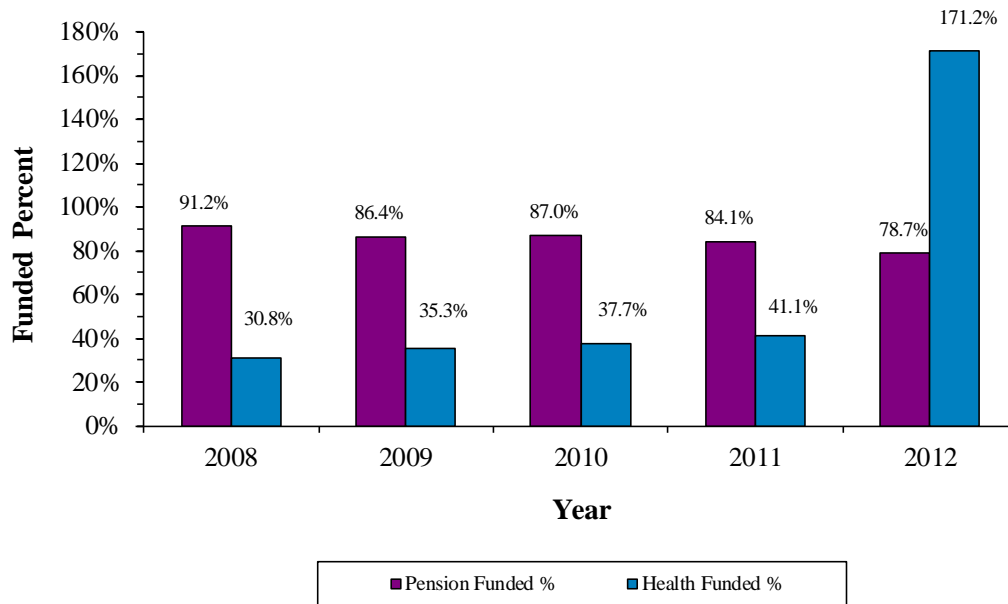
Comment E: During the 2012 plan year, retiree health cost increases were slightly lower than expected. The assumed rates of medical inflation used in this valuation of the retiree health plan were modified to better reflect plan experience. The favorable health care cost experience was offset by the change in the medical inflation assumption. The closure of the retiree health plan to new City retirees resulted in a significant reduction in Health Plan liabilities and a funding surplus as of the valuation date. As a result of the funding surplus, no City contribution is recommended to the retiree health plan for the 2014 fiscal year.

CONTRIBUTION SUMMARY FOR THE FISCAL YEAR BEGINNING JANUARY 1, 2014

| Contributions for | Computed Employer Contributions | | |
|--|---------------------------------|--------|-------------|
| | Pension | Health | Total |
| Total Computed City-State Contribution | \$4,484,256 | \$0 | \$4,484,256 |

The pension contribution shown above was based on a 25-year amortization of the UAAL. The Retiree Health Plan surplus resulted in a \$0 contribution for the 2014 fiscal year.

Pension and Retiree Health Funded Ratio History



SECTION B
SUMMARY OF BENEFIT PROVISIONS
AND VALUATION DATA

**BENEFIT PROVISIONS EVALUATED
AND/OR CONSIDERED
(DECEMBER 31, 2012)**

Pension Fund Eligibility:

New City Firefighter employees hired on or before June 30, 2013 will become members of the Firefighters Pension Fund. Individuals hired after June 30, 2013 will become members of the South Dakota Retirement System.

Regular Retirement:

Eligibility - Age 55 with 20 or more years of service; or the sum of a member's age and years of service equals eighty (80) with a minimum retirement age of 50.

Annual Amount - Final average compensation times the sum of a) 2.5% times the first 25 years of service, plus b) 1.5% times service in excess of 25 years.

Type of Final Average Compensation - Average of last 3 years before retirement. Some lump sums are included.

Early Reduced Retirement:

Eligibility - 20 or more years of service.

Annual Amount - Same as regular retirement except that the benefit is actuarially reduced.

Deferred Retirement (vested benefit):

Eligibility - 15 years of service; benefit payable at deferred retirement age.

Annual Amount- Computed as a regular retirement benefit but based on service and final average compensation at termination.

Duty Disability Retirement:

Eligibility - No age or service requirements. Must be in receipt of Workers' Compensation.

Annual Amount - Computed as a regular retirement benefit, based on a minimum of 10 years of service. Minimum benefit is 50% of a first-class firefighter's salary. Workers' compensation payments are offset.

**BENEFIT PROVISIONS EVALUATED
AND/OR CONSIDERED
(DECEMBER 31, 2012)**

Non-Duty Disability Retirement:

Eligibility - 10 years of service.

Annual Amount - Computed as a regular retirement benefit. Minimum benefit is 20% of a first-class firefighter's salary.

Duty Death Before Retirement:

Eligibility - No age or service requirement. Also payable in case of death of duty-disability retiree within 5 years of retirement. Workers' Compensation must be payable.

Annual Amount - Refund of accumulated contributions. Spouse receives a pension of 1/3 of first-class firefighter's salary until death. Unmarried children under age 18 or an eligible handicapped child will receive equal share of 1/4 of a first-class firefighter's salary (if no spouse, each child receives 1/4 to a maximum of 1/2). The minimum monthly benefit for each eligible child is \$200. If there are no spouse or eligible children, dependent parents each receive 1/6 of a first-class firefighter's salary. Workers' Compensation payments are offset.

Non-Duty Death Before Retirement:

Eligibility - 10 years of service.

Annual Amount - Surviving spouse receives a monthly benefit for life computed as a regular retirement benefit but actuarially reduced in accordance with a 100% joint and survivor election. In addition each eligible or handicapped child is paid a minimum monthly benefit of \$200.

Post-Retirement Cost-of-Living Adjustments:

An annual increase equal to 100% of the June CPI change each year with a cap of 3%. The first increase is granted after 36 months of retirement.

Member Contributions:

8% of compensation until January 1, 2014.

9% of compensation effective January 6, 2014.

10% of compensation on and after January 5, 2015.

**BENEFIT PROVISIONS EVALUATED
AND/OR CONSIDERED
(DECEMBER 31, 2012)**

Stipend Benefit:

Eligibility - Members who retire from City employment (regular, early reduced or disability retirement) after December 31, 2013 are eligible to receive a monthly stipend benefit payable from the Pension Fund until age 65 (or Medicare eligibility) in lieu of retiree health plan benefits.

Annual Amount - \$40 per month times years of service at retirement. Benefit is payable to the member only until he/she becomes eligible for Medicare or dies (if earlier). No benefit is payable to a surviving spouse or child of a deceased Pension Fund Member. Benefit increases by 3% each year beginning in January 2015.

Retiree Health Plan Benefit:

Eligibility – Eligible Pension Fund members (and their eligible spouses) who retire from the City employment on or before December 31, 2013 are eligible to join the City Sponsored Retiree Health Plan at retirement.

Annual Amount – Medical, prescription drug and dental benefits are provided to eligible retirees and spouses until attainment of age 65 (or Medicare eligibility). The benefit recipient pays for 50% of the monthly premium amount.

REPORTED FUND BALANCES

| Reserves | Reported Fund Balances Market Value |
|-------------------------|--|
| | 2012 |
| Pension Savings Fund | \$ 11,125,877 |
| Pension Reserve Fund | 31,316,935 |
| Retirement Reserve Fund | 60,622,711 |
| IRC 401(h) Account | 6,977,862 |
| Income/Expense Fund | 153,437 |
| Total Fund Balances | \$110,196,822 |

In financing pension actuarial accrued liabilities, valuation assets were distributed as follows:

| Reserves | Valuation Assets Applied to Actuarial Accrued Liabilities for | | | Totals |
|---|--|-----------------------------|------------------------|---------------|
| | Active & Inactive Members | Retirees & Beneficiaries | Contingency Reserve | |
| Pension Savings Fund | \$11,125,877 | | | \$11,125,877 |
| Pension Reserve and Income/Expense Fund | 9,136,205 | \$21,655,751 | | 30,791,956 |
| Retirement Reserve Fund | | 60,622,711 | | 60,622,711 |
| Total | \$20,262,082 | \$82,278,462 | \$ 0 | \$102,540,544 |

DERIVATION OF VALUATION ASSETS

| | Pension | Health | Total |
|--|--------------|-------------|---------------|
| A. Funding Value, 12/31/11* | \$97,291,967 | \$5,409,300 | \$102,701,267 |
| B. Market Value, Beginning of Year | | | 97,660,871 |
| C. Non-Investment Net Cash Flow | (2,066,069) | 734,334 | |
| D. Net Investment Income | 13,033,458 | | |
| E. Market Value, End of Year | | | 110,196,822 |
| F. Phase-in Factor | 20% | | |
| G. Expected Income** | 7,460,067 | 834,228 | |
| H. Market Value Gain (Loss): [(D) – (G)] | 5,573,391 | | |
| I. Method Change | | | |
| J. Recognition of Gain (Loss) | | | |
| J1. Year One | 1,114,678 | | |
| J2. Year Two | (1,260,099) | | |
| J3. Year Three | | | |
| J4. Year Four | | | |
| J5. Year Five | | | |
| J6. Total (J1...J5) | (145,421) | | |
| K. Funding Value, 12/31/12 [(A) + (C) + (G) + (J6)] | 102,540,544 | 6,977,862 | 109,518,406 |
| L. Funding Value Rate of Return | 7.60% | 14.44% | |
| M. Market Value Rate of Return | 14.29% | 14.44% | |

* Revised value based on the 2013 experience study.

** Actual investment income shown for health assets.

**ASSET INFORMATION REPORTED FOR VALUATION
COMPARATIVE STATEMENT - MARKET VALUE**

| Year Ended Dec. 31 | Assets Beginning of Year | Revenues | | | Expenses | | | Assets Year-End |
|--------------------------|--------------------------------|--------------------|----------------------|----------------------|------------------------|---------------------|------------------------|--------------------|
| | | Member Contrib. | Employer Contrib. | Investment Income | Retirement Benefits | Contrib. Refunds | Other Net Expenses* | |
| 1998 | \$50,836,495 | \$384,425 | \$ 1,400,438 | \$ 6,319,530 | \$ 1,884,691 | \$ 2,132 | \$240,655 | \$ 56,813,410 |
| 1999 | 56,813,410 | 388,242 | 1,216,206 | 9,134,505 | 1,970,490 | 46,532 | 213,541 | 65,321,800 |
| 2000 | 65,321,800 | 377,237 | 1,034,177 | 491,515 | 2,082,927 | 9,920 | 231,827 | 64,900,056 |
| 2001 | 64,900,056 | 549,024 | 878,260 | (913,594) | 2,275,493 | 0 | 263,426 | 62,874,827 |
| 2002 | 62,874,827 | 612,637 | 837,636 | (6,425,470) | 2,454,162 | 11,921 | 336,984 | 55,096,563 |
| 2003 | 55,096,563 | 694,919 | 964,605 | 14,505,737 | 2,646,885 | 12,667 | 401,224 | 68,201,048 |
| 2004 | 68,201,048 | 729,784 | 1,269,502 | 9,856,321 | 3,130,455 | 27,170 | 366,281 | 76,532,749 |
| 2005 | 76,532,749 | 733,442 | 1,448,282 | 6,666,149 | 3,460,068 | 1,038 | 467,077 | 81,452,439 |
| 2006 | 81,452,439 | 804,140 | 2,096,083 | 12,813,932 | 3,755,563 | 133,085 | 539,948 | 92,737,998 |
| 2007 | 92,737,998 | 832,892 | 2,716,461 | 7,602,334 | 4,173,282 | 42,932 | 611,256 | 99,062,215 |
| 2008 | 99,062,215 | 856,843 | 2,685,905 | (26,092,662) | 4,440,801 | 22,529 | 633,148 | 71,415,823 |
| 2009 | 71,415,823 | 926,257 | 2,852,790 | 16,900,840 | 4,930,354 | 43,069 | 583,877 | 86,538,410 |
| 2010 | 86,538,410 | 887,101 | 3,171,070 | 12,255,865 | 5,211,418 | 34,640 | 464,318 | 97,142,070 |
| 2011 | 97,142,070 | 916,965 | 3,718,003 | 1,987,241 | 5,558,803 | 3,589 | 541,016 | 97,660,871 |
| 2012 | 97,660,871 | 911,291 | 3,970,160 | 13,981,467 | 5,848,569 | 0 | 478,398 | 110,196,822 |

* Includes retiree medical benefits.

**ADDITIONS TO AND REMOVALS FROM RETIRED/SURVIVOR MEMBERSHIP
COMPARATIVE STATEMENT**

| Year Ended Dec. 31 | Additions | | Removals | | End of Year Totals | | Average Annual Benefits | Present Value of Benefits | Expected Removals |
|-----------------------------------|------------------|----------------------------|-----------------|----------------------------|---------------------------|----------------------------|--|--|------------------------------|
| | No. | Annual Benefits | No. | Annual Benefits | No. | Annual Benefits | | | |
| 1998 | 1 | \$ 61,918 | 4 | \$ 28,128 | 96 | \$ 1,924,194 | \$20,044 | \$25,677,303 | 3.1 |
| 1999 | 3 | 159,701 | 2 | 19,218 | 97 | 2,064,677 | 21,285 | 27,618,722 | 2.8 |
| 2000 | 4 | 91,635 | 2 | 6,150 | 99 | 2,150,162 | 21,719 | 28,364,586 | 3.0 |
| 2001 | 5 | 204,618 | 4 | 38,747 | 100 | 2,316,033 | 23,160 | 30,488,652 | 3.2 |
| 2002 | 7 | 256,583 | 5 | 60,380 | 102 | 2,512,236 | 24,630 | 33,161,976 | 3.0 |
| 2003 | 17 | 266,239 | 7 | 21,520 | 112 | 2,756,955 | 24,616 | 36,127,984 | 2.9 |
| 2004 | 13 | 538,951 | 3 | 39,371 | 122 | 3,256,535 | 26,693 | 42,695,611 | 3.1 |
| 2005 | 8 | 339,439 | 2 | 35,965 | 128 | 3,560,009 | 27,813 | 46,338,790 | 3.3 |
| 2006 | 9 | 484,345 | 4 | 76,783 | 133 | 3,967,571 | 29,831 | 52,332,720 | 3.6 |
| 2007 | 7 | 371,127 | 3 | 31,735 | 137 | 4,306,963 | 31,438 | 57,295,812 | 3.7 |
| 2008 | 9 | 527,492 | 5 | 160,035 | 141 | 4,674,420 | 33,152 | 64,060,877 | 3.8 |
| 2009 | 14 | 567,145 | 6 | 83,800 | 149 | 5,157,765 | 34,616 | 70,864,899 | 3.9 |
| 2010 | 7 | 299,458 | 5 | 108,324 | 151 | 5,348,899 | 35,423 | 73,447,548 | 3.9 |
| 2011 | 11 | 567,883 | 6 | 159,270 | 156 | 5,757,512 | 36,907 | 79,914,932 | 4.0 |
| 2012 | 2 | 190,469 | 4 | 124,027 | 154 | 5,823,954 | 37,818 | 82,278,462 | 4.2 |

**RETIREES AND BENEFICIARIES DECEMBER 31, 2012
TABULATED BY TYPE OF BENEFITS BEING PAID**

| Type of Benefits Being Paid | No. | Annual Pension Benefit |
|------------------------------------|------------|-----------------------------------|
| Age and Service Benefits* | 116 | \$5,021,650 |
| Disability Retirement Benefits* | 8 | 127,234 |
| Survivor Benefits | 30 | 675,070 |
| Total | 154 | \$5,823,954 |

* *Includes survivors.*

**RETIREES AND BENEFICIARIES BY ATTAINED AGES
AS OF DECEMBER 31, 2012**

| Attained Ages | No. | Annual Pensions |
|--------------------------|------------|----------------------------|
| Under 40 | 1 | \$ 2,472 |
| 45 - 49 | 0 | 0 |
| 50 - 54 | 9 | 404,950 |
| 55 - 59 | 35 | 1,650,446 |
| 60 - 64 | 42 | 1,645,244 |
| 65 - 69 | 17 | 667,145 |
| 70 - 74 | 17 | 712,824 |
| 75 - 79 | 11 | 375,320 |
| 80 - 84 | 11 | 191,393 |
| 85 + | 11 | 174,160 |
| | | |
| Total | 154 | \$ 5,823,954 |

**VESTED DEFERRED RETIREMENTS BY ATTAINED AGES
AS OF DECEMBER 31, 2012**

| Attained Ages | No. | Annual Pensions |
|--------------------------|------------|----------------------------|
| 40-44 | 2 | \$ 73,425 |
| 45-49 | 1 | 55,623 |
| 55-59 | 2 | 44,449 |
| Totals | 5 | \$173,497 |

ACTIVE MEMBERS INCLUDED IN VALUATION

| Valn. Date Dec. 31 | Active Members | | | Vested Term. | Valuation | Average Age | Average | | % Incr. |
|--------------------------|----------------|-------|-------|-----------------|-------------|----------------|---------|----------|------------|
| | Chiefs | Other | Total | Members | Payroll | | Service | Pay | |
| 1998 | 13 | 136 | 150 | 2 | \$6,254,807 | 41 | 13.9 | \$41,699 | 9.6 % |
| 1999 | 12 | 137 | 149 | 2 | 6,265,176 | 42 | 14.2 | 42,048 | 0.8 |
| 2000 | 12 | 138 | 150 | 2 | 6,236,863 | 42 | 14.9 | 41,579 | (1.1) |
| 2001 | 11 | 140 | 151 | 3 | 6,860,428 | 42 | 14.9 | 45,433 | 9.3 |
| 2002 | 13 | 149 | 162 | 3 | 7,634,337 | 41 | 13.7 | 47,126 | 3.7 |
| 2003 | 13 | 151 | 164 | 4 | 8,354,041 | 41 | 13.2 | 50,939 | 8.1 |
| 2004 | 12 | 151 | 163 | 4 | 8,624,759 | 41 | 12.5 | 52,913 | 3.9 |
| 2005 | 12 | 154 | 166 | 4 | 8,917,110 | 41 | 12.3 | 53,718 | 1.5 |
| 2006 | 12 | 166 | 178 | 5 | 9,493,382 | 40 | 10.7 | 53,334 | (0.7) |
| 2007 | 11 | 166 | 177 | 4 | 9,991,111 | 40 | 10.9 | 56,447 | 5.8 |
| 2008 | 12 | 170 | 182 | 4 | 10,461,858 | 40 | 10.5 | 57,483 | 1.8 |
| 2009 | 13 | 166 | 179 | 3 | 11,189,155 | 40 | 10.4 | 62,509 | 8.7 |
| 2010 | 12 | 168 | 180 | 3 | 10,913,504 | 40 | 10.6 | 60,631 | (3.0) |
| 2011 | 11 | 165 | 176 | 4 | 10,827,592 | 40 | 10.5 | 61,520 | 1.5 |
| 2012 | 13 | 169 | 182 | 5 | 11,525,947 | 41 | 11.2 | 63,329 | 2.9 |

**ADDITIONS TO AND REMOVALS FROM ACTIVE MEMBERSHIP
ACTUAL AND EXPECTED NUMBERS**

| Year Ended Dec. 31 | Number Added During Year | | Retirement | | Disability Retirement | | Died-In- Service | | Other Terminations | | Members End of Year |
|--------------------------|-----------------------------------|-----------|------------|------------|--------------------------|------------|---------------------|------------|-----------------------|-------------|---------------------------|
| | A | E | A | E | A | E | A | E | A | E | |
| | 2003 | 12 | 10 | 6 | 2.9 | 0 | 0.3 | 1 | 0.2 | 3 | |
| 2004 | 11 | 12 | 10 | 4.1 | 0 | 0.2 | 1 | 0.2 | 1 | 4.7 | 163 |
| 2005 | 9 | 6 | 4 | 3.9 | 1 | 0.1 | 0 | 0.2 | 1 | 3.1 | 166 |
| 2006 | 24 | 12 | 9 | 4 | 0 | 0.2 | 0 | 0.2 | 3 | 3.0 | 178 |
| 2007 | 7 | 8 | 5 | 2.9 | 0 | 0.1 | 0 | 0.2 | 3 | 3.9 | 177 |
| 2008 | 13 | 8 | 6 | 1.5 | 1 | 0.2 | 0 | 0.2 | 1 | 3.4 | 182 |
| 2009 | 8 | 11 | 8 | 2.0 | 0 | 0.2 | 1 | 0.2 | 2 | 3.6 | 179 |
| 2010 | 8 | 7 | 5 | 2.4 | 0 | 0.2 | 0 | 0.2 | 2 | 3.3 | 180 |
| 2011 | 8 | 12 | 7 | 2.1 | 0 | 0.2 | 0 | 0.2 | 5 | 3.1 | 176 |
| 2012 | 7 | 1 | 0 | 1.6 | 0 | 0.2 | 0 | 0.2 | 1 | 2.9 | 182 |
| 5 Year Totals | 44 | 39 | 26 | 9.6 | 1 | 1.0 | 1 | 1.0 | 11 | 16.3 | |

A - represents actual number.

E - represents the expected number based on assumptions outlined in Section C of the 2011 valuation report.

**ACTIVE FIREFIGHTER MEMBERS
DECEMBER 31, 2012
BY ATTAINED AGE AND YEARS OF SERVICE**

| Attained Age | Years of Service on Valuation Date | | | | | | | Totals | |
|-----------------|------------------------------------|-----------|-----------|-----------|----------|-----------|---------|------------|---------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 Plus | No. | Payroll |
| 20-24 | 2 | | | | | | | 2 | \$ 88,937 |
| 25-29 | 12 | 2 | | | | | | 14 | 671,772 |
| 30-34 | 11 | 14 | 3 | | | | | 28 | 1,535,672 |
| 35-39 | 10 | 21 | 8 | | | | | 39 | 2,277,488 |
| 40-44 | 3 | 11 | 8 | 5 | | | | 27 | 1,684,684 |
| 45-49 | 1 | 4 | 6 | 11 | 2 | | | 24 | 1,626,236 |
| 50-54 | | 3 | 4 | 7 | 4 | 9 | | 27 | 1,907,478 |
| 55-59 | | 1 | 1 | 2 | 2 | 2 | | 8 | 554,446 |
| Totals | 39 | 56 | 30 | 25 | 8 | 11 | | 169 | \$10,346,713 |

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 40.8 years

Service: 10.7 years

Annual Pay: \$61,223

**ACTIVE MEMBER BATTALION CHIEFS
DECEMBER 31, 2012
BY ATTAINED AGE AND YEARS OF SERVICE**

| Attained Age | Years of Service on Valuation Date | | | | | | | Totals | |
|---------------|------------------------------------|----------|----------|----------|----------|----------|----------|-----------|--------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 Plus | No. | Payroll |
| 35-39 | | | 3 | | | | | 3 | \$ 249,723 |
| 40-44 | 1 | | 1 | 1 | | | | 3 | 260,294 |
| 45-49 | | 1 | | 2 | 1 | | | 4 | 367,832 |
| 50-54 | | | | | | 2 | 1 | 3 | 301,385 |
| Totals | 1 | 1 | 4 | 3 | 1 | 2 | 1 | 13 | \$1,179,234 |

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 44.5 years

Service: 17.1 years

Annual Pay: \$90,710

SECTION C

**ACTUARIAL METHODS AND ASSUMPTIONS
AND DEFINITIONS OF TECHNICAL TERMS**

ACTUARIAL METHODS USED FOR THE VALUATION

Actuarial Cost Method

Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

- (i) the annual normal costs for each individual active member, payable from the member's actual date of employment to projected date of retirement, are sufficient to accumulate the actuarial present value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

Amortization of Unfunded Actuarial Accrued Liabilities

The pension plan unfunded actuarial accrued liability (UAAL) was determined using the funding value of assets and actuarial accrued pension liability calculated as of the valuation date. The UAAL amortization payment (one component of the contribution requirement), was developed using a level dollar amortization method that fully amortizes the UAAL over a 25-year period.

The retiree health plan UAAL (or surplus) was amortized over a 15-year period using a level dollar amortization method.

Asset Valuation Method

The funding value of assets used in the pension plan valuation recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased-in over a 5-year period. During periods when investment performance exceeds the assumed rate, the funding value of assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, the funding value of assets will tend to be greater than market value. This is the result of phasing-in differences between actual investment income (market value basis) and expected investment income (funding value basis).

The Retiree Health Plan valuation uses a market value of assets to develop the UAAL.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Investment Return (net of expenses)

7.75% per year, compounded annually. This rate consists of a net real rate of return of 3.50% per year plus a long-term rate of wage inflation of 4.25% per year.

This assumption is used to equate the value of payments due at different points in time and was first used for the December 31, 2007 valuation. Approximate rates of investment return, for the purpose of comparison with assumed rates, are shown below.

| | Year Ended December 31, | | | | |
|---------------------------|-------------------------|------|------|------|------|
| | 2012 | 2011 | 2010 | 2009 | 2008 |
| Rate of Investment Return | 7.1% | 2.7% | 5.1% | 4.2% | 3.2% |

The nominal rate of return was computed using the approximate formula $i = I$ divided by $1/2(A + B - I)$, where I is actual investment income net of expenses, A is the beginning of year asset value, and B is the end of year asset value.

These rates of return should not be used for measurement of an investment advisor's performance or for comparisons with other systems -- *to do so will mislead*.

Pay Projections: These assumptions are used to project current pays to those upon which benefits will be based. The base economic assumptions were first used for the December 31, 2007 valuation. The merit and longevity assumptions shown below were first used for the December 31, 2012 valuation.

| Service (Years) | Annual Rate of Pay Increase for Sample Ages | | |
|--------------------|---|------------------------|--------|
| | Base (Economic) | Merit and Longevity | Total |
| 1-4 | 4.25 % | 4.50 % | 8.75 % |
| 5-12 | 4.25 | 2.00 | 6.25 |
| 13 | 4.25 | 1.00 | 5.25 |
| 14 | 4.25 | 0.00 | 4.25 |

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

The assumed rate of price inflation is 3.50% per year.

Changes actually experienced in average pay and total payroll have been as follows:

| Increase in | Year Ended December 31 | | | | |
|---------------|------------------------|-------|---------|-------|-------|
| | 2012 | 2011 | 2010 | 2009 | 2008 |
| Average pay | 2.9 % | 1.5 % | (3.0) % | 8.7 % | 1.8 % |
| Total payroll | 6.4 | (0.8) | (2.5) | 7.0 | 4.7 |

Mortality Table: The RP-2000 Mortality Combined Healthy Table projected to 2020 using Projection Scale BB. For pre-retirement mortality, 100% of the table rates were used for both men and women. For post-retirement mortality, 130% of the table rates were used for men and 100% of the rates for women. This table was first used for the December 31, 2012 valuation. Sample values follow:

| Sample Ages | Actuarial Present Value of \$1 Monthly for Life | | Future Life Expectancy (Years) | |
|----------------|--|----------|-----------------------------------|-------|
| | Men | Women | Men | Women |
| | 55 | \$134.47 | \$138.34 | 28.37 |
| 60 | 125.92 | 130.61 | 23.94 | 26.34 |
| 65 | 115.45 | 120.96 | 19.74 | 21.98 |
| 70 | 102.93 | 109.54 | 15.83 | 17.93 |
| 75 | 88.51 | 96.49 | 12.26 | 14.25 |
| 80 | 72.91 | 81.97 | 9.13 | 10.95 |

The assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. The membership size in this plan is not sufficiently large to determine if there is a margin for mortality improvement. However, based on our experience with a broad cross section of public sector plans similar in nature to this plan, it is our opinion that there is no provision for future mortality improvement in the current male, post-retirement, mortality assumption.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Rates of separation from active membership: The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

| Sample Ages | Years of Service | Percent Separating within Next Year |
|----------------|---------------------|--|
| ALL | 0 | 6.00 % |
| | 1 | 2.00 |
| | 2 | 1.50 |
| | 3 | 1.25 |
| | 4 | 1.25 |
| 25 | 5 & Over | 2.50 |
| 30 | | 2.00 |
| 35 | | 1.50 |
| 40 | | 1.00 |
| 45 | | 0.50 |
| 50 | | 0.00 |
| 55 | | 0.00 |
| 60 | | 0.00 |

The service based rates were first used in the December 31, 2012 valuation. The age based rates were first used in the December 31, 2004 valuation.

Rates of Disability: These assumptions represent the probabilities of active members becoming disabled.

| Sample Ages | Percent Becoming Disabled within Next Year |
|----------------|---|
| 20 | 0.08 % |
| 25 | 0.08 |
| 30 | 0.08 |
| 35 | 0.08 |
| 40 | 0.20 |
| 45 | 0.26 |
| 50 | 0.49 |
| 55 | 0.89 |

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

Rates of Retirement: These rates are used to measure the probabilities of an eligible member retiring under the Regular and Early reduced retirement provisions during the next year.

| Percents of Active Members Retiring within the Next Year | | | |
|---|---------------------------------|----------------------|-------------------------------|
| Retirement Ages | Regular Retirement Rates | Service (Yrs) | Early Retirement Rates |
| 50 | 50 % | 20 | 2 % |
| 51 | 50 | 21 | 2 |
| 52 | 50 | 22 | 2 |
| 53 | 50 | 23 | 2 |
| 54 | 60 | 24 | 2 |
| 55 | 60 | 25 | 2 |
| 56 | 60 | 26 | 2 |
| 57 | 70 | 27 | 2 |
| 58 | 70 | 28 | 2 |
| 59 | 70 | 29 | 2 |
| 60 & Over | 100 | 30 & Over | 2 |

A member was assumed to be eligible for regular retirement after attaining age 55 and completing 20 or more years of service, or if the sum of age and service equals eighty (80). A member was assumed to be eligible for early reduced retirement after completing 20 years of service.

The early retirement rates were first used for the December 31, 2004 valuation. The regular retirement rates were first used for the December 31, 2012 valuation.

DEFINITIONS OF TECHNICAL TERMS

Accrued Service - Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability - The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as “past service liability.”

Actuarial Assumptions - Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method - A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future benefits” between future normal costs and actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

Actuarial Equivalent - One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

Actuarial Gain (Loss) - The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

Actuarial Present Value - The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

DEFINITIONS OF TECHNICAL TERMS

Amortization - Paying off an interest-discounted amount with periodic payments of interest and (generally) principal -- as opposed to paying it off with a lump sum payment.

Normal Cost - The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as “current service cost.”

Unfunded Actuarial Accrued Liabilities - The difference between actuarial accrued liabilities and valuation assets. Sometimes referred to as “unfunded past service liability” or “unfunded supplemental present value.”

Most retirement systems have unfunded actuarial accrued liabilities. They arise each time new benefits are added and each time an actuarial loss occurs. The existence of unfunded actuarial accrued liabilities is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liabilities do not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liabilities and the trend in their amount (after due allowance for devaluation of the dollar).

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

| | |
|---------------------------------------|--|
| Marriage Assumption: | 80% of participants are assumed to be married for purposes of death and retiree health benefits. In each case males were assumed to be 3 years older than females. |
| Pay Increase Timing: | Beginning of year. |
| Decrement Timing: | Decrements of all types are assumed to occur mid-year. |
| Eligibility Testing: | Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur. |
| Benefit Service: | Exact fractional service is used to determine the amount of benefit payable. |
| Other: | Disability and turnover decrements do not operate during retirement eligibility. |
| Miscellaneous Loading Factors: | The calculated retirement benefits were increased by 13% to account for the inclusion of unused sick leave and vacation time in the calculation of Final Average Compensation (FAC) and by 1% to account for the impact of subsidized optional forms of payment. |
| Death/Disability Assumption: | Fifty percent of disabilities and deaths were assumed to be duty related. Fifty percent were assumed to be unrelated to duty. The recovery rate from disability was assumed to be 0 (i.e., no disabled individual was assumed to recover and return to work). |
| Forfeiture Assumption: | All vested terminated members were assumed to elect a deferred retirement benefit. |

SECTION D

**DISCLOSURES REQUIRED BY GASB STATEMENTS
NO. 25 AND NO. 27**

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Pension Funding Progress

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded AAL (UAAL) (b)-(a) | Funded Ratio (a)/(b) | Covered Payroll (c) | UAAL as a % of Covered Payroll ((b-a)/c) |
|--------------------------------|--|---|--------------------------------------|----------------------------|---------------------------|--|
| 2003 | \$70,428,739 | \$ 71,553,948 | \$ 1,125,209 | 98.4 | \$ 8,354,041 | 13.5 % |
| 2004 | 72,736,709 | 78,146,993 | 5,410,284 | 93.1 | 8,624,759 | 62.7 |
| 2005 | 75,974,775 | 82,553,914 | 6,579,139 | 92.0 | 8,917,110 | 73.8 |
| 2006 | 82,154,884 | 87,164,271 | 5,009,387 | 94.3 | 9,493,382 | 52.8 |
| 2007 | 91,114,339 | 95,560,890 | 4,446,551 | 95.3 | 9,991,111 | 44.5 |
| 2008 | 92,122,034 | 100,976,694 | 8,854,660 | 91.2 | 10,461,858 | 84.6 |
| 2009 | 93,760,099 | 108,557,299 | 14,797,200 | 86.4 | 11,189,155 | 132.2 |
| 2010 | 96,339,891 | 110,709,933 | 14,370,042 | 87.0 | 10,913,504 | 131.7 |
| 2011 | 96,992,162 | 115,353,137 | 18,360,975 | 84.1 | 10,827,592 | 169.6 |
| 2012 | 102,540,544 | 130,254,837 | 27,714,293 | 78.7 | 11,525,947 | 240.5 |

Schedule of Employer Pension Contributions

| Valuation Year Ended December 31 | Fiscal Year Ended December 31 | Contribution Rates as % of Valuation Payroll | Computed Dollar Contributions | Actual Contributions | % Contributed |
|---|--|--|----------------------------------|-------------------------|------------------|
| 2003 | 2005 | 11.12 % | \$ 992,375 | \$ 1,053,254 | 100 % |
| 2004 ^ | 2006 | 16.21 | 1,526,731 | 1,683,121 | 100 |
| 2005 | 2007 | 17.14 | 1,669,043 | 1,826,253 | 100 |
| 2006 | 2008 | 15.99 | 1,657,685 | 1,695,167 | 100 |
| 2007 ^ | 2009 | 16.36 | 1,776,435 | 1,877,096 | 100 |
| 2008 | 2010 | 19.97 | 2,270,592 | 2,233,372 | 98 |
| 2009 | 2011 | 24.55 | 2,985,389 | 2,773,506 | 93 |
| 2010 | 2012 | 25.21 | 2,990,124 | 2,871,209 | 96 |
| 2011 | 2013 | 24.31 | 2,860,678 | | |

^ *New methods or assumptions adopted.*

Computed dollar contributions are based on contribution rates and projected valuation payroll. Actual contributions were based on the financial statements provided by the City. Deviations may be attributable to differences between projected and actual payroll. This information is presented in draft form for review by the City's auditor. Please let us know if there are any items that the auditor changes so that we can maintain consistency with the City's financial statements.

REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

| | |
|-------------------------------|---|
| Valuation date | December 31, 2012 |
| Actuarial cost method | Entry-Age |
| Amortization method | Level dollar, closed |
| Remaining amortization period | 25 years |
| Asset valuation method | 5 year smoothed market |
| Actuarial assumptions: | |
| Investment rate of return | 7.75% |
| Projected salary increases* | 4.25%-8.75% |
| *Includes inflation at | 4.25% |
| Cost-of-living adjustments | Annual increase equal to the Change in CPI with a cap of 3% Beginning 3 years after retirement. |

Membership of the plan consisted of the following at December 31, 2012, the date of the latest actuarial valuation:

| | |
|---|------------|
| Retirees and beneficiaries receiving benefits | 154 |
| Terminated plan members entitled to but not yet receiving benefits | 5 |
| Active plan members | <u>182</u> |
| Total | 341 |

APPENDIX

RETIREE HEALTH VALUATION BASED ON ASSUMPTIONS AND METHODS PRESCRIBED BY THE GOVERNMENTAL ACCOUNTING STANDARDS BOARD

RETIREE HEALTH PREMIUM RATES

Background

Health care premiums are an important part of a retiree health valuation. Eligible City retirees (and their spouses) may elect to receive benefits from health plans offered by Sanford and Avera. All benefits provided by the City sponsored retiree health Program (plan) are self-funded. This means that the City pays claims and takes the risk associated with the health care program. The City buys stop loss insurance to help manage this risk. Dental insurance benefits are also self-funded.

Retiree health benefit recipients pay for a portion of their benefits based on premium rates established by the City (illustrative premiums). These premiums were used in the actuarial valuation of the retiree health program. A summary of these premiums is shown in this section of the report.

Retirees who participate in the retiree health program pay 50% of the reported illustrative premiums. The City pays the remaining portion of the retiree health care cost. Since retirees are responsible for a significant portion of the costs, there is anti-selection in this plan (healthy retirees may decline coverage which increases the average cost for the remaining retirees). The probability of opt-out will likely increase once the public exchanges come online in 2014 due to the Affordable Care Act. Health insurance coverage terminates upon attainment of age 65. At this time, each retiree must make their own arrangements for health care coverage.

The current actuarial standard covering the valuation of retiree medical liability became effective for measurements on or after January 1, 2003. The standard includes the development of facsimile premiums based on the actual claims experience and the use of age grading. The combination of these two techniques produces “premiums” at each age during the retiree’s lifetime based on the group’s actual, historical claims experience.

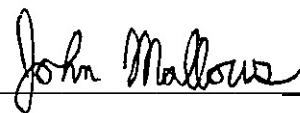
We believe that using illustrative premium rates alone to determine retiree medical liability will likely understate the value of retiree health benefits and will fail to comply with both current actuarial standards of practice and governmental accounting standards. A summary of the facsimile health care “premium” rates used in the December 31, 2012 valuation of the retiree health program are shown on the following page. The actuarial assumptions and methods used in the retiree health program valuation are shown in this section of the report.

PREMIUM RATE DEVELOPMENT METHOD MONTHLY PER PERSON HEALTH CARE RATES

Initial premiums were developed for pre-65 retirees only. These premiums were developed using retiree claims experience from January 2010 to November 2012 in conjunction with exposure data for the retired members of the health care program. These claims were projected on a paid claim basis, adjusted for plan design changes, large claims and loaded for administrative expenses.

Age graded and sex distinct premiums are utilized by this valuation. The premium developed by the preceding process is appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process “distributes” the average premium over all age/sex combinations and assigns a unique premium to each combination. This process more accurately reflects health care costs in the retired population over the projection period. The tables in this section of the report show the combined medical and prescription drug one-person monthly premiums at selected ages effective January 1, 2013 to December 31, 2013.

The undersigned is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to certify the per capita retiree health care rates shown in this report.



John Mallows, FSA, MAAA

**PREMIUM RATE DEVELOPMENT METHOD
MONTHLY PER PERSON HEALTH CARE RATES**

Facsimile Health Care Premiums Used in the 2012 Valuation

| Age | Monthly Pre-65 Rates at Sample Ages | |
|-----|-------------------------------------|-----------|
| | Male | Female |
| 50 | \$ 837.19 | \$ 948.59 |
| 55 | 1,094.20 | 1,124.73 |
| 60 | 1,374.62 | 1,321.32 |

The above rates reflect the total medical and prescription drug retiree cost without considering any applicable retiree contributions.

Monthly Dental Premiums Used in the 2012 Valuation

| Coverage for | Monthly Rate |
|------------------|--------------|
| Retiree Only | \$40.92 |
| Retiree & Spouse | 81.84 |

The dental premium rates used in the valuation were not “age graded” since dental claims do not vary significantly by age.

The chart below shows the retiree paid premiums (50% of the weighted average illustrative premiums) reported to the actuary in connection with this valuation of the program.

Illustrative Monthly Premiums Used in the 2012 Valuation

| Coverage for | Monthly Rate |
|---|--------------|
| Health Care Premiums (Retiree Only) | \$411.92 |
| Health Care Premiums (Retiree & Spouse) | 873.57 |
| Dental Premiums (Retiree Only) | 20.46 |
| Dental Premiums (Retiree & Spouse) | 39.07 |

HEALTH COST TREND ASSUMPTION

Background

Retiree health care valuations require an assumption about how the health costs that the plan is absorbing will change over the years. This assumption includes more than just “health inflation”. It includes the impact of:

- The introduction of new procedures and medications and how they are priced.
- The utilization of services and products by covered retirees and their dependents and how that utilization changes over the years.

Retiree health valuations use a health cost trend assumption that changes over the years. The near term rates reflect the fact that currently employers are seeing sharp increases in the cost of health goods and services. However, they do not anticipate that health costs will increase at these rates indefinitely. To do so would be to ignore the real world implications of this sort of projection. For example, if health costs represent 20% of disposable income initially and grow at 12% per year for the next 10 years while disposable income increases at 4% would imply that after 10 years health would absorb 40% of our disposable income. Over a 20-year period, these rates of increase would imply that at the end of the 20-year period, health costs would absorb almost 80% of our disposable income.

The valuations attempt to deal with the future by recognizing that it is more reasonable to assume that current trends will have to change in the future before we reach the absurd situation of having little or no money to spend on things that are not related to health (including food, shelter, clothes, etc.). Health costs are assumed to increase at rates greater than general inflation for a temporary “cooling off” period. At the end of the cooling off period, health costs are assumed to increase in line with general inflation. As years elapse, there are fewer remaining years in the cooling off period. A summary of the rates of medical inflation used in this valuation of the program are shown on the next page. Retirees pay the premium rates shown at the bottom of the prior page. These premiums were assumed to increase with medical inflation. The assumed rate of increase is shown on the following page.

HEALTH COST TREND AND RELATED ASSUMPTIONS

Rates of Inflation for Medical, Rx and Dental Benefits

| Future Health Cost Increases | | |
|--|-------------------------|---------------|
| Year Beginning December 31, | Medical & Rx | Dental |
| 2013 | 9.00% | 4.25% |
| 2014 | 8.50 | 4.25 |
| 2015 | 8.00 | 4.25 |
| 2016 | 7.50 | 4.25 |
| 2017 | 7.00 | 4.25 |
| 2018 | 6.50 | 4.25 |
| 2019 | 6.00 | 4.25 |
| 2020 | 5.50 | 4.25 |
| 2021 | 5.00 | 4.25 |
| 2022 & After | 4.25 | 4.25 |

Retiree paid premiums were assumed to increase at the rates shown above.

Cumulative Aging Factors at Select Ages

| Age | Male | Female |
|------------|-------------|---------------|
| 45 | 0.514 | 0.673 |
| 50 | 0.696 | 0.788 |
| 55 | 0.909 | 0.935 |
| 57 | 1.000 | 1.000 |
| 60 | 1.142 | 1.098 |

**COMPUTED RETIREE HEALTH CONTRIBUTION
BASED ON ASSUMPTIONS / METHODS PRESCRIBED BY GASB
FOR THE FISCAL YEAR BEGINNING JANUARY 1, 2014**

| | |
|--------------------------------------|--------------------|
| Total Actuarial Accrued Liability | \$ 4,075,513 |
| Asset Value | 6,977,862 |
| Unfunded Actuarial Accrued Liability | <u>(2,902,349)</u> |
| First Year \$ Contribution | \$ 0 |

Eligible Firefighter members of the Pension Fund who retire on or before December 31, 2013 may join the Retiree Health Plan. Pension Fund members who retire after December 31, 2013 are not eligible to participate in the Retiree Health Plan. As a result, the Plan will become closed on, January 1, 2014.

As of the valuation date, the Retiree Health Plan has a surplus. Based on information provided by the City coupled with actual Pension Fund experience during 2012 it is likely that few if any retirees will join the health plan during 2013. As a result, the surplus shown above is likely to persist in the near term (absent adverse health plan experience).

Since Plan assets exceed liabilities as of the valuation date, no City contributions are recommended for fiscal year 2014.

**REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF FUNDING PROGRESS FOR
THE RETIREE HEALTH PLAN**

| Actuarial Valuation Date Dec. 31 | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded AAL (UAAL) (b)-(a) | Funded Ratio (a)/(b) | Covered Payroll (c) | UAAL as a % of Covered Payroll ((b-a)/c) |
|---|--|--|--|-------------------------------------|------------------------------------|---|
| 2006 | \$1,711,122 | \$11,225,140 | \$ 9,514,018 | 15.2 % | \$ 9,493,382 | 100.2 % |
| 2007 [^] | 2,542,036 | 10,835,013 | 8,292,977 | 23.5 | 9,991,111 | 83.0 |
| 2008 | 3,296,432 | 10,706,694 | 7,410,262 | 30.8 | 10,461,858 | 70.8 |
| 2009 | 4,095,878 | 11,596,630 | 7,500,752 | 35.3 | 11,189,155 | 67.0 |
| 2010 | 4,911,528 | 13,027,364 | 8,115,836 | 37.7 | 10,913,504 | 74.4 |
| 2011 | 5,709,105 | 13,884,714 | 8,175,609 | 41.1 | 10,827,592 | 75.5 |
| 2012 [^] | 6,977,862 | 4,075,513 | (2,902,349) | 171.2 | 11,525,947 | - |

[^] New methods or assumptions adopted.

**REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF EMPLOYER HEALTH CONTRIBUTIONS**

| Valuation Year Ended Dec. 31 | Fiscal Year Ended Dec. 31 | Contribution Rate as a % of Valuation Payroll | Annual Required Contribution (ARC) | Actual Contributions | Percentage Contributed |
|---|--|--|---|---------------------------------|-----------------------------------|
| 2005 | 2007 | 8.91% | \$ 867,630 | \$ 890,208 | 100.0 % |
| 2006 | 2008 | 9.47% | 981,756 | 990,738 | 100.0 |
| 2007 [^] | 2009 | 8.72% | 946,853 | 975,694 | 100.0 |
| 2008 | 2010 | 8.33% | 947,122 | 937,698 | 99.0 |
| 2009 | 2011 | 8.35% | 1,015,397 | 944,497 | 93.0 |
| 2010 | 2012 | 9.65% | 1,144,573 | 1,098,951 | 96.0 |
| 2011 | 2013 | 10.35% | 1,217,936 | | |

[^] New methods or assumptions adopted.

Annual required contributions expressed as percents of pay are based on contribution rates and projected valuation payroll. Actual contributions were based on the financial statements provided by the City. Deviations may be attributable to differences between projected and actual payroll. This information is presented in draft form for review by the City's auditor. Please let us know if there are any items that the auditor changes so that we can maintain consistency with the City's financial statements.

REQUIRED SUPPLEMENTARY INFORMATION FOR THE RETIREE HEALTH PLAN

The following assumptions and methods were used in the December 31, 2012 actuarial valuation for the Retiree Health Plan:

| | |
|---------------------------------|----------------------------|
| Valuation Date | December 31, 2012 |
| Actuarial Cost Method | Entry-Age |
| Amortization Method | Level dollar, closed |
| Remaining Amortization Period | 15 years |
| Asset Valuation Method | Market value of assets |
| Premium Rate Development Method | Please refer to Appendix A |

Actuarial Assumptions

| | |
|---|---|
| Annual Rate of Return (discount rate) | 7.75% per year |
| Rates of Inflation for Medical Benefits | 9.0% grading down to 4.25% in the year 2022 |
| Rate of Inflation for Dental Benefits | 4.25% for all years |

Membership of the Retiree Health Plan is shown below at December 31, 2012, the date of the latest actuarial valuation.

| | |
|--|----------|
| Retirees receiving medical benefits | 48 |
| Active Plan members | <u>0</u> |
| Total number of current and former City employees who are members of the Retiree Health Plan | 48 |