# City of St. Louis

**BOARD OF ESTIMATE AND APPORTIONMENT**
BUDGET DIVISION

**PAUL W. PAYNE**
BUDGET DIRECTOR

CITY HALL
1200 MARKET STREET, ROOM 419
ST. LOUIS, MO 63103-2861
(314) 589-6697
FAX: (314) 622-3519


October 25, 2012

Via E-Mail:

RECEIVED
OCT 25 2012

Ms. Ronda Stegmann
Executive Director
Joint Committee on Public Employee Retirement
State Capitol, Room 219-A
Jefferson City, MO 65101

**Re: Board Bill No. 109CS – Firefighters' Retirement Plan**

Dear Ms. Stegmann:

This letter transmits an actuarial cost statement related to Board Bill No. 109 Committee Substitute now pending on the legislative calendar of the St. Louis Board of Aldermen.

As indicated in the "Proposed Changes" section of the enclosed cost statement, the proposed Board Bill addresses a number of benefit changes that would result from the creation of a new Firefighter's Retirement Plan that would eventually replace the existing plan administered by the Firemen's Retirement System of the City of St. Louis ("FRS"). BB#109 CS amends the previous ordinance that established the new Firefighter's Retirement Plan (BB#12 FS now Ord. No. 69245), freezing accrual of benefits under FRS and implements a dual system structure utilizing dual actuarial cost methods rather than a single merged system and single cost method, as well as incorporating a number of changes in benefits. The actuarial cost impact details are included as an attached Exhibit to the enclosed cost statement.

Since these changes in the retirement plan will have a significant impact on the cost of the of the pension plan and retirement system that benefits the City's firemen, we have arranged for the preparation of the attached cost statement in accordance with R.S. Mo. Section 105.665 and are, via this transmittal letter, filing this statement with you as the Executive Director of the "joint committee on public employee retirement."

Please make the enclosed statement of cost immediately available for public inspection. Thank you for your assistance. If there is anything else you need, please let me know.

Sincerely,

Paul W. Payne
Budget Director

Attachment
cc: Mike Garvin, City Counselor's Office

SEGAL
THE SEGAL COMPANY
101 North Wacker Drive Suite 500 Chicago, IL 60606-1724
T 312.984.8500 F 312.984.8590 www.segalco.com

# ACTUARIAL COST STATEMENT RELATING TO THE PROPOSED CHANGES FOR MEMBERS UNDER THE FIREFIGHTERS' RETIREMENT PLAN OF THE CITY OF ST. LOUIS

**Prepared and Presented October 25, 2012**

In accordance with R.S.Mo. §105.665, this actuarial statement is to disclose the financial impact of a change in plan benefits that qualifies as a Substantial Proposed Change to the Firefighters' Retirement Plan of the City of St. Louis, which is to be effective immediately upon passage of proposed legislation identified as Board Bill No.109 that is currently under consideration by the City of St. Louis Board of Aldermen. The exhibit accompanying this statement was prepared using actuarial assumptions consistent with those employed in the Actuarial Cost Statement prepared and presented May 25, 2012.

## Proposed Changes

The proposed Board Bill addresses the following plan changes:

- **Offset for Benefits Earned from the Prior Plan:** Credited service accrued under the frozen Firemen's Retirement System of the City of St. Louis ("Prior Plan") will count toward benefit accruals under the Firefighter's Retirement Plan of the City of St. Louis ("New Plan"), but benefits attributable to such service will be offset by the benefits payable by the Prior Plan.

- **Grandfathering of Participants with 20 or More Years of Service:** Participants with 20 or more years of service as of the Effective Date of the Board Bill ("Effective Date") will continue to accrue benefits under the provisions of the Prior Plan, with the exception of disability benefits, which will be subject to the provisions of the New Plan.

- **Disabilities and Deaths after Effective Date:** The disability and death benefit provisions of the Prior Plan will not apply to a disability or to a death of a non-grandfathered participant that occurs after the Effective Date. Benefits payable due to disabilities and to deaths of non-grandfathered participants that occur after the Effective Date will be subject to the provisions of the New Plan.

- **Disability COLA:** Currently, the annual post-retirement cost-of-living increases for disabilities incurred in the line of duty on or after the Effective Date that prevent work in any occupation are the lesser of annual increases in the CPI or 3% per year up to a maximum lifetime aggregate increase of 25%. The proposed annual increases are the lesser of annual increases in the CPI or 3% per year up to age 60, then 5% per year thereafter up to a maximum increase of 25% after age 60.

- **Early Retirement Reductions:** Currently, eligibility for an unreduced pension is the later of age 55 and 20 years of service. A participant who terminates employment after completing at least 20 years of service (but prior to the unreduced retirement eligibility age) may receive either 1) a deferred pension payable at age 55, or 2) an early retirement pension actuarially reduced from age 55 payable immediately.

The attached exhibit shows the impact of the proposed plan changes on current members as of October 1, 2011.

**Actuarial Analysis**

The attached exhibit reflects the Level Normal Cost, Contribution for Unfunded Accrued Liabilities and the Total Annual Cost shown in the May 25, 2012 Actuarial Cost Statement (which relies on the most recent actuarial valuation as of October 1, 2011) both as dollar amounts and as percentages of covered and total salary. For cost comparison purposes, the plan changes were valued as of October 1, 2011.

The City has historically paid and is currently paying the Statutory Annual Required Contribution as shown in the attached exhibit.

The proposed changes represent a decrease in future benefits and require no additional funding.

All of the results in this statement have been estimated based on the most recent actuarial valuation as of October 1, 2011 and reflect the following Actuarial Methods and Assumptions in accordance with R.S.Mo. §105.665.

**Actuarial Cost Methods**

**Prior Plan:** Frozen Initial Liability (Entry Age Normal) Actuarial Cost Method. This method determines a normal cost on an aggregate basis expressed as a level percentage of pay. The normal cost rate equals the ratio of (a) the present value of future benefits less the actuarial value of assets less the frozen unfunded actuarial liability, to (b) the present value of future salaries. Under this method, the actuarial gains (losses), as they occur, reduce (increase) future normal costs.

**New Plan:** Entry Age Normal (level percent of salary) Actuarial Cost Method, with entry age determined as the age at date of employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by service. Actuarial Accrued Liability is offset by the Prior Plan's Actuarial Accrued Liability and Normal Cost is offset by projected employee contributions.

**Amortization of Unfunded Accrued Liabilities**

**Prior Plan:** Unfunded actuarial accrued liabilities for changes in assumptions, plan provisions, or methods are amortized on a level dollar basis over 30 years from the creation of the unfunded base. As a result of the benefit freeze, the Unfunded Accrued Liability under the Frozen Initial Liability cost method is less than zero. Therefore, the amortization payment due to the Unfunded Accrued Liability has been removed. Effectively, the Prior Plan now operates under the Aggregate Cost method (pursuant to Section 87.330 of the Missouri Revised Statutes).

**New Plan:** The total unfunded actuarial accrued liability (UAL) is amortized over a 30-year closed period as a level percent of payroll.

## Valuation of Assets

The actuarial value of assets is determined by adjusting the market value of assets, excluding the future benefit fund, to reflect the investment gains and losses (the difference between the actual investment return and the expected investment return) during each of the last three years at the rate of 33 percent per year.

## Mortality Rates

Post-retirement mortality: RP-2000 Combined Healthy Mortality Table projected to 2015
Pre-retirement mortality: 85% of the post-retirement mortality rates
Disabled mortality: 120% of the post-retirement mortality rates

## Investment Earnings

7.625% per annum, net of expenses, compounded annually

## Salary Appreciation

| Years of Service | Increase Next Year |
|---|---|
| 0 – 4 | 5.50% |
| 5 – 9 | 5.00% |
| 10 – 14 | 3.75% |
| 15 or more | 3.35% |

## Rates of Retirement

| Years of Service | Rate of Retirement |
|---|---|
| 20 – 29 | 5.00% |
| 30 – 34 | 15.00% |
| 35 or more | 100.00% |

100% of active members are assumed to retire at the later of age 65 and the attainment of 20 years of service.

## Rates of Withdrawal prior to Retirement other than Death

Rates per 1,000 Members

| Years of Service | Rate of Withdrawal |
|---|---|
| 0 | 75.0 |
| 1 | 40.0 |
| 2 – 7 | 22.5 |
| 8 – 13 | 12.5 |
| 14 – 19 | 5.0 |
| 20 or more | 0.0 |

**Rates of Disability**

Rates per 1,000 Members

| Age | Ordinary | Accidental |
|---|---|---|
| 20 – 34 | 1.0 | 4.0 |
| 35 – 39 | 2.0 | 8.0 |
| 40 – 44 | 3.0 | 12.0 |
| 45 – 54 | 4.0 | 16.0 |
| 55 and older | 7.0 | 28.0 |

**Additional Assumptions**

- Decrements are assumed to occur mid-year.
- 100% of actives are assumed to be married, with males assumed to be 3 years older than females. No additional liabilities are assumed due to the payment of dependent child benefits.
- Actuarially equivalent early retirement reductions are based on the RP-2000 Combined Healthy Mortality table for males projected to 2015 and an interest rate of 7.625%.
- It is assumed that members will enter the DROP with 28 years of service. If the member has more than 28 years of service at the valuation date, it is assumed that the member will enter the DROP the following year. It is assumed that members who enter the DROP with less than 30 years of service will return to active status after completing five years in the DROP. DROP balances are assumed to earn 7.625%. If a member with a DROP balance dies prior to termination of employment, it is assumed that a lump sum payment equal to the amount in the member's DROP account shall be paid to the beneficiary or the member's estate.
- Future increases in the Consumer Price Index are assumed to be 3% annually.
- Disability benefits plus earnings from any subsequent employment are assumed to be less than average final compensation.

To the best of my knowledge and belief, this cost statement is complete and accurate. In my opinion, the actuarial assumptions used are, in the aggregate, reasonable expectations of anticipated experience under the Plan.

Respectfully submitted,

Kim Nicholl

Kim Nicholl, FSA, MAAA
Enrolled Actuary No. 11-03573

5297738v1/13487.002

## Exhibit

**Assumptions Used in October 1, 2011 Actuarial Valuation With 100% Retirement at Later of Age 65 and 20 Years of Service**
**Actives With 20 or More Years of Service Grandfathered Into Current Plan**

| | Current Plan - Frozen Initial Liability Cost Method | Frozen Plan (FRS) - Frozen Initial Liability Cost Method | New Plan (FRP) - Entry Age Normal Cost Method | Total Reflecting All Changes | Percent Change from Current Plan (FIL) |
|---|---|---|---|---|---|
| **Present Value of All Future Benefits** | | | | | |
| Retirees and Beneficiaries | $ 314,019,803 | $ 314,019,803 | $ - | $ 314,019,803 | |
| Active Firemen | 247,702,579 | 97,114,226 | 127,353,523 | 224,467,749 | -9.38% |
| DROP Firemen | 58,587,860 | 45,747,348 | 12,121,702 | 57,869,050 | -1.23% |
| System Employees Benefit Fund | 343,356 | 343,356 | - | 343,356 | |
| **Total** | **$ 620,653,598** | **$ 457,224,733** | **$ 139,475,225** | **$ 596,699,958** | -3.86% |
| **Assets** | | | | | |
| Actuarial Asset Value (3-year smoothing) | $ 404,101,569 | $ 404,101,569 | $ - | $ 404,101,569 | |
| Present Value of Future Employee Contributions | 23,665,001 | - | N/A | N/A | |
| **Total** | **$ 427,766,570** | **$ 404,101,569** | **$ -** | **$ 404,101,569** | |
| **Actuarial Accrued Liability using the Entry Age Normal Cost Method** | **N/A** | **N/A** | **$ 65,746,023** | **N/A** | |
| **Unfunded Accrued Liability** | **$ 26,653,809** | **$ -** * | **$ 65,746,023** | | |
| **Funded Status** | **N/A** | **N/A** | **0.00%** | | |
| **Present Value of Future Normal Costs** | **$ 166,233,219** | **$ 53,123,164** | **N/A** | | |
| **Present Value of Future Salary** | **$ 333,551,922** | **$ 333,551,922** | **N/A** | | |
| **Normal Contribution Percent** | **49.837%** | **15.927%** | **N/A** | | |
| **Total Salary** | **$ 38,602,627** | **$ 38,602,627** | **$ 38,602,627** | **$ 38,602,627** | |
| **Employer Normal Contribution as of Beginning of Year** | | | | | |
| Total Normal Cost | N/A | N/A | $ 8,719,475 | | |
| Less Employee Contributions | N/A | N/A | (3,012,634) | | |
| **Total** | **N/A** | **N/A** | **$ 5,706,841** | | |
| **Annual City Contributions for Plan Year Ending 9/30/2012** | | | | | |
| End of Year Employer Normal Contribution | $ 19,238,391 | $ 6,148,240 | $ 6,141,988 | $ 12,290,228 | |
| End of Year Amortization Payment for Unfunded Accrued Liability | 2,290,845 | - | 4,152,590 | 4,152,590 | |
| **Grand Total** | **$ 21,529,236** | **$ 6,148,240** | **$ 10,294,578** | **$ 16,442,818** | **-23.63%** |
| **Change in Total Contribution from Current Plan** | | | | **$ (5,086,418)** | |
| **Normal Contribution / Cost as a % of Total Salary** | **49.84%** | **15.93%** | **15.91%** | **31.84%** | |
| **Total Contribution as a % of Total Salary** | **55.77%** | **15.93%** | **26.67%** | **42.60%** | |
| **Change in Total Contribution as a % of Total Salary** | | | | | **-13.18%** |

** Change in actuarial accrued liability due to the plan freeze is (69,557,259). The FIL unfunded accrued liability is therefore zero and the cost method is changed to the aggregate method.*