

**CITY OF SOUTHFIELD EMPLOYEES RETIREMENT SYSTEM**  
FORTY-SEVENTH ACTUARIAL VALUATION REPORT  
AS OF JUNE 30, 2012

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December 11, 2012

Board of Trustees  
City of Southfield Employees Retirement System  
Southfield, Michigan

Dear Trustees:

The results of the June 30, 2012 Annual Actuarial Valuation of the City of Southfield Employees Retirement System are presented in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board.

The purpose of the valuation is to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending June 30, 2014, and to determine the actuarial information for Governmental Accounting Standards Board (GASB) Statement No. 25 and No. 27.

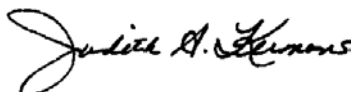
The valuation was based upon information furnished by the City, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

The actuaries submitting this report are Members of the American Academy of Actuaries (MAAA) as indicated, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The signing actuaries are independent of the plan sponsor.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the City of Southfield Employees Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Respectfully submitted,



Judith A. Kermans, EA, MAAA



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**SECTION A**  
VALUATION RESULTS

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## FUNDING OBJECTIVE

**The funding objective of the Retirement System is to establish and receive contributions which, expressed as percents of active member payroll, will remain approximately level from year-to-year and will accumulate sufficient assets over each member's working lifetime to finance promised benefits throughout retirement.**

## CONTRIBUTION RATES

The Retirement System is supported by member contributions, City contributions and investment income from Retirement System assets.

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

- Cover the actuarial present value of benefits allocated to the current year by the actuarial cost method described in Section C (the normal cost); and
- Finance 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).

***The computed City contribution rate*** for the 2013/2014 fiscal year is 21.40% of covered payroll. The details of this contribution rate are shown on page A-5.

The City contribution rate of 21.40% is sufficient to finance the employer normal cost and to amortize the unfunded actuarial accrued liability (full funding credit) as a level percent-of-payroll over a period of 28 years.

The Board of Trustees of the City of Southfield Employees Retirement System confirms that the System provides for payment of the required employer contribution as described in Section 20m of Michigan Public Act No. 728.

**SUMMARY OF  
CURRENT ASSET INFORMATION  
FURNISHED FOR VALUATION**

*Balance Sheet as of June 30, 2012*

| <b>Reported Assets - Market Value</b> | <b>Reserves for*</b> |                          |                     |
|---------------------------------------|----------------------|--------------------------|---------------------|
| Cash & equivalents                    | \$ 2,193             | Employees' contributions | \$ 3,761,128        |
| Receivables and accruals              | 132,977              | Employer contributions   | 10,846,265          |
| Other short-term investments          | 3,537,662            | Retired benefit payments | 79,066,936          |
| Government bonds                      | 4,378,383            | Market value of assets   | 93,674,329          |
| Corporate bonds                       | 5,228,933            |                          |                     |
| Other fixed income funds              | 13,514,084           |                          |                     |
| Equities                              | 67,488,855           |                          |                     |
| Real estate                           | 763,029              |                          |                     |
| Other assets                          | 0                    |                          |                     |
| Payable - due to brokers              | (615,499)            |                          |                     |
| Payable - due to primary gov          | (756,288)            |                          |                     |
| <b>Total Current Assets</b>           | <b>\$ 93,674,329</b> | <b>Total Reserves</b>    | <b>\$93,674,329</b> |

\* *These reserve amounts were not supplied by the City. We have set the Employee's Contributions Reserve to the sum of the employee contributions submitted for each individual in the valuation. The Retired Benefit Payments Reserve has been set equal to the liability for retired members. The Employer Contribution Reserve is a balancing item to allow the sum of the three reserves to equal the market value of assets submitted for the valuation.*

***Revenues and Expenditures***

|  | <b>Total</b>        |
|--|---------------------|
| <b><i>Market Value - July 1, 2011</i></b>                | <b>\$99,664,875</b> |
| Revenues   |                     |
| Employees' contributions                                 | 679,917             |
| Employer contributions                                   | 2,660,847           |
| Net investment income                                    | (221,482)           |
| Total  | 3,119,282           |
| Expenditures   |                     |
| Benefit payments (pension only)                          | 9,109,828           |
| Refund of member contributions                           | 0                   |
| Health insurance premiums                                | 0                   |
| Total  | 9,109,828           |
| <b><i>Market Value - June 30, 2012</i></b>               | <b>\$93,674,329</b> |
| Investment return (net)/mean assets (market value basis) | (0.23)%             |

**DEVELOPMENT OF FUNDING VALUE OF SYSTEM ASSETS  
JUNE 30, 2012**

| Year Ended June 30:  | 2012              | 2013           | 2014           | 2015           | 2016           |
|--|-------------------|----------------|----------------|----------------|----------------|
| A. Funding Value Beginning of Year                                       | \$ 97,303,073     |                |                |                |                |
| B. Market Value End of Year  | 93,674,329        |                |                |                |                |
| C. Market Value Beginning of Year  | 99,664,875        |                |                |                |                |
| D. Non-Investment Net Cash Flow<br>(Contributions less benefit payments) | (5,769,064)       |                |                |                |                |
| E. Investment Income   |                   |                |                |                |                |
| E1. Market Total: B - C - D  | (221,482)         |                |                |                |                |
| E2. Assumed Rate (i)   | 8.00%             |                |                |                |                |
| E3. Amount for Immediate Recognition: $i * (A + D / 2)$                  | 7,553,483         |                |                |                |                |
| E4. Amount for Phased-In Recognition: E1 - E3                            | (7,774,965)       |                |                |                |                |
| F. Phased-In Recognition of Investment Income                            |                   |                |                |                |                |
| F1. Current Year: $0.20 \times E4$                                       | (1,554,993)       |                |                |                |                |
| F2. First Prior Year   | 3,269,404         | \$ (1,554,993) |                |                |                |
| F3. Second Prior Year  | 705,407           | 3,269,404      | \$ (1,554,993) |                |                |
| F4. Third Prior Year   | (4,924,735)       | 705,407        | 3,269,404      | \$ (1,554,993) |                |
| F5. Fourth Prior Year  | (2,982,565)       | (4,924,737)    | 705,408        | 3,269,405      | \$ (1,554,993) |
| F6. Total Recognized Investment Gain                                     | \$ (5,487,482)    | \$ (2,504,919) | \$ 2,419,819   | \$ 1,714,412   | \$ (1,554,993) |
| <b>G. Funding Value End of Year: A + D + E3 + F6</b>                     | <b>93,600,010</b> |                |                |                |                |
| H. Difference Between Market & Funding Value                             | 74,319            |                |                |                |                |
| <b>I. Recognized Rate of Return - Funding Value</b>                      | <b>2.19%</b>      |                |                |                |                |
| <b>J. Recognized Rate of Return - Market Value</b>                       | <b>(0.23)%</b>    |                |                |                |                |
| <b>K. Ratio of Funding to Market Value of Assets</b>                     | <b>99.92%</b>     |                |                |                |                |

The Funding Value of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will be greater than market value. The Funding Value of Assets is *unbiased* with respect to Market Value. At any time it may be either greater or less than Market Value. If recognized and assumed rates of retirement income are exactly equal for 4 consecutive years, the Funding Value will become equal to Market Value.

**VALUATION ASSETS AND UNFUNDED ACTUARIAL ACCRUED LIABILITY  
JUNE 30, 2012**

*In financing the actuarial accrued liabilities*, the valuation assets of \$93,600,010 were distributed as follows:

| <b>Reserves for</b>      | <b>Present Assets Applied to</b>                                |                                     |                                | <b>Total</b>        |
|--------------------------|---|-------------------------------------|--------------------------------|---------------------|
|                          | <b>Active &amp; Inactive<br/>Member Accrued<br/>Liabilities</b> | <b>Retired Life<br/>Liabilities</b> | <b>Contingency<br/>Reserve</b> |                     |
| Employees' Contributions | \$ 3,761,128  | \$                                  | \$                             | \$ 3,761,128        |
| Employer Contributions   | 10,771,946  |                                     |                                | 10,771,946          |
| Retired Benefit Payments |   | 79,066,936                          |                                | 79,066,936          |
| Pension Total            | <u>\$14,533,074</u>   | <u>\$79,066,936</u>                 | none                           | <u>\$93,600,010</u> |

Assets were applied against actuarial accrued liabilities in determining unfunded actuarial accrued liabilities as follows:

|   | <b>Retired Lives*</b> | <b>Active and<br/>Inactive Members</b> | <b>Total</b>         |
|---|-----------------------|--|----------------------|
| Computed Actuarial<br>Accrued Liabilities         | \$79,066,936          | \$58,620,861                           | \$137,687,797        |
| Applied Assets                                    | <u>79,066,936</u>     | <u>14,533,074</u>                      | <u>93,600,010</u>    |
| <b>Unfunded Actuarial<br/>Accrued Liabilities</b> | <b>\$ none</b>        | <b>\$ 44,087,787</b>                   | <b>\$ 44,087,787</b> |

\* Represents actuarial accrued liability for all benefits for retirees who retired after 7/1/82 and ad-hoc COLA for retirees who retired prior to 7/1/82. Base retirement benefits for the "pre-82" retirees were funded through annuity purchases.



## CONTRIBUTIONS TO PROVIDE BENEFITS FOR THE 2013/2014 FISCAL YEAR

| Contributions for                              | Contributions Expressed as<br>% of Active Member Payroll |        |                           |   |              |                                      |                  |                                   |
|--|--|--------|---------------------------|---|--------------|--------------------------------------|------------------|-----------------------------------|
|  | Union  | PSS    | Public<br>Safety<br>Tech. | Total<br>Without<br>Non Union<br>& Career<br>Center | Non<br>Union | Total<br>Without<br>Career<br>Center | Career<br>Center | Total<br>With<br>Career<br>Center |
| <b>Pension</b>                                 |  |        |                           |   |              |                                      |                  |                                   |
| <i>Normal cost</i>                             |  |        |                           |   |              |                                      |                  |                                   |
| Age & Service                                  | 7.84 %   | 7.40 % | 7.34 %                    | 7.80 %  | 7.81 %       | 7.80 %                               | 7.36 %           |                                   |
| Disability                                     | 0.47   | 0.45   | 0.52                      | 0.47  | 0.45         | 0.47                                 | 0.47             |                                   |
| Death-before-retirement                        | 0.23   | 0.23   | 0.19                      | 0.23  | 0.19         | 0.22                                 | 0.20             |                                   |
| Refunds of member contributions                | 0.66   | 0.36   | 0.34                      | 0.63  | 0.65         | 0.64                                 | 0.62             |                                   |
| Total  | 9.20   | 8.44   | 8.39                      | 9.13  | 9.10         | 9.13                                 | 8.65             |                                   |
| Member contributions (average)                 | 5.12   | 3.00   | 3.00                      | 4.94  | 5.00         | 4.95                                 | 5.00             |                                   |
| Employer Normal Cost                           | 4.08   | 5.44   | 5.39                      | 4.19  | 4.10         | 4.18                                 | 3.65             |                                   |
| <i>Full funding credit*</i>                    |  |        |                           |   |              | 0.00                                 | 0.00             |                                   |
| <i>Unfunded actuarial accrued liabilities*</i> |  |        |                           |   |              | 17.60                                | 10.46            |                                   |
| <b>Employer pension total</b>                  |  |        |                           |   |              | 21.78 %                              | 14.11 %          | 21.40 %                           |

\* Amortized as a level percent-of-payroll over a period of 28 years. Career Center employees are financed separately. The portion of the total assets assigned to Career Center employees is based on an annual projection of Career Center assets based on assumed cash flow items and a proportionate share of investment earnings on the total fund.

### DETERMINING EMPLOYER DOLLAR CONTRIBUTIONS

For any period of time, the percent-of-payroll contribution rate needs to be converted to dollars and then contributed to the Retirement System in a timely manner.

The recommended and current procedure is: (1) *at the end of each payroll period, multiply the active member payroll for the period by the employer contribution percent*; and (2) *contribute the dollar amount so determined*.

The projected employer dollar contribution based on the payroll information provided for the valuation, adjusted to reflect assumed payroll increases between the valuation date and the fiscal year for which the contributions are being determined, is \$3,519,772.

**DERIVATION OF EXPERIENCE GAIN (LOSS)  
YEAR ENDED JUNE 30, 2012**

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses often cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below, along with a year by year comparative schedule.

|   |               |
|---|---------------|
| (1) UAAL* at start of year  | \$ 36,658,412 |
| (2) Total normal cost from last valuation (employer + member)   | 1,395,492     |
| (3) Actual contributions (employer + member)  | 3,340,764     |
| (4) Interest accrual: [(1) + 1/2 [(2) - (3)]] x 8   | 2,854,862     |
| (5) Expected UAAL before changes: (1) + (2) - (3) + (4)   | 37,568,002    |
| (6) Change from revised assumptions/methods   | 0             |
| (7) Change from revised plan provisions   | 0             |
| (8) Expected UAAL after changes: (5) + (6) + (7)  | 37,568,002    |
| (9) Actual UAAL at end of year  | 44,087,787    |
| (10) Gain (loss): (8) - (9)   | (6,519,785)   |
| (11) Gain (loss) as percent of actuarial accrued liabilities at start of year (\$133,961,485 pension) | (4.9)%        |

\* *Unfunded actuarial accrued liabilities (full funding credit if in brackets).*

| <b>Valuation<br/>Date<br/>June 30</b> | <b>Experience Gain (Loss)<br/>as % of Beginning<br/>Accrued Liability</b> |
|---------------------------------------|---|
|                                       | <b>Pension</b>  |
| 2003                                  | (10.25) %   |
| 2004                                  | (7.23)  |
| 2005                                  | (3.67)  |
| 2006                                  | (4.78)  |
| 2007                                  | (0.48)  |
| 2008                                  | (1.24)  |
| 2009                                  | (3.02)  |
| 2010                                  | (5.22)  |
| 2011                                  | (0.46)  |
| 2012                                  | (4.87)  |

**SUMMARY STATEMENT OF SYSTEM RESOURCES AND OBLIGATIONS  
JUNE 30, 2012**

*Present Resources and Expected Future Resources*

|  | <b>June 30, 2012</b> | <b>June 30, 2011</b> |
|--|----------------------|----------------------|
| A. Actuarial value of System assets:                         |                      |                      |
| 1. Net assets from System financial statement                | \$ 93,674,329        | \$ 99,664,875        |
| 2. Market value adjustment                                   | (74,319)             | (2,361,802)          |
| 3. Actual valuation assets                                   | 93,600,010           | 97,303,073           |
| <br>B. Present value of expected future contributions:       |                      |                      |
| 1. For normal costs  | 4,863,015            | 5,336,097            |
| 2. For unfunded actuarial accrued liabilities                | 44,087,787           | 36,658,412           |
| 3. Totals  | 48,950,802           | 41,994,509           |
| <br>C. Present value of expected future member contributions | 5,509,459            | 6,065,640            |
| <br><b>D. Total Present and Expected Future Resources</b>    | <b>\$148,060,271</b> | <b>\$145,363,222</b> |

*Actuarial Present Value of Expected Future Benefit Payments*

|   |                      |                      |
|---|----------------------|----------------------|
| A. To retirees and beneficiaries  | \$ 79,066,936        | \$ 70,824,995        |
| B. To vested terminated members   | 1,857,336            | 1,420,285            |
| C. To present active members:   |                      |                      |
| 1. Allocated to service rendered prior to valuation date                | 56,763,525           | 61,716,205           |
| 2. Allocated to service likely to be rendered after valuation date      | 10,372,474           | 11,401,737           |
| 3. Totals   | 67,135,999           | 73,117,942           |
| <br><b>D. Total Actuarial Present Value of Expected Future Payments</b> | <b>\$148,060,271</b> | <b>\$145,363,222</b> |

## **COMMENTS AND RECOMMENDATION**

### **SYSTEM EXPERIENCE**

Overall, fund experience was less favorable than assumed during the year ending June 30, 2012, producing an experience loss of approximately \$6.5 million. The majority of this loss (\$5.5 million) is attributable to lower than assumed investment returns on the funding value of assets, while \$1.0 million of the loss is attributable to demographic (membership) experience. The primary reasons for the demographic loss were earlier retirements than expected, fewer terminations than expected, and fewer deaths among existing retirees than expected. Gains from lower than assumed active pay increases only partially offset these losses.

As of June 30, 2012 the funded ratio of the Retirement System is 68.0% based on the funding value of assets as well as the market value of assets since these asset values are within 0.10% of each other as of the valuation date.

The market rate of return was (0.23)% this year, which was significantly lower than the assumed rate of 8.0%. The valuation employs a smoothing mechanism which recognizes investment gains and losses over a 5-year period. Essentially, 20% of this year's loss is recognized in this year's funding value of assets. The recognized portion of gains and losses from the prior 4 years was then combined with the recognized portion of the gain from this year (see page A-3). The rate of return on the System's funding value of assets was 2.19%. Recognition of investment losses from current and prior years will continue to put upward pressure on contribution rates next year. However, investment gains are scheduled to be recognized in the following two years (years ending 6/30/2014 and 6/30/2015) putting downward pressure on contribution rates. Actual investment performance during these years will also contribute to the actual recognition of investment gains and losses over the next few years.

### **SYSTEM CHANGES**

None.

### **ASSUMPTION/METHOD CHANGES**

None.

## COMPUTED EMPLOYER CONTRIBUTIONS COMPARATIVE STATEMENT

| Valuation<br>Date<br>June 30 | Active Members |                     |                   |          |       | Retirees & Beneficiaries |         |             |        | Annual Contributions<br>As Payroll Percents |         |        |
|------------------------------|----------------|---------------------|-------------------|----------|-------|--------------------------|---------|-------------|--------|---|---------|--------|
|                              | No.            | Ratio to<br>Retired | Valuation Payroll |          | %     | Annual Benefits          |         |             | Member | Employer                                    |         |        |
|                              |                |                     | \$ Millions       | Average  |       | Incr.                    | No.     | \$ Millions |        | % of<br>Payroll                             | Pension | Health |
| 1992*                        | 410            | 4.4                 | \$ 13.30          | \$32,513 | 3.2%  | 92                       | \$ 0.61 | 4.5%        | 3.56%  | 3.72%                                       | 1.75%   | 9.03%  |
| 1993*                        | 397            | 4.1                 | 13.20             | 33,235   | 2.2   | 97                       | 0.69    | 5.2         | 3.57   | 3.55  | 1.69    | 8.81   |
| 1994                         | 387            | 3.6                 | 13.30             | 34,343   | 3.3   | 107                      | 0.84    | 6.3         | 3.52   | 3.85  | 1.64    | 9.01   |
| 1995*                        | 370            | 3.1                 | 13.10             | 35,304   | 2.7   | 119                      | 0.99    | 7.6         | 0.97   | 5.40  | 1.54    | 7.91   |
| 1996#                        | 369            | 2.8                 | 13.30             | 36,069   | 2.2   | 130                      | 1.13    | 8.5         | 1.01   | 3.05  | 1.39    | 5.45   |
| 1997                         | 401            | 3.0                 | 14.50             | 36,240   | 0.5   | 135                      | 1.18    | 8.1         | 1.02   | 0.98  | 1.30    | 3.30   |
| 1998#                        | 399            | 2.8                 | 15.10             | 37,895   | 4.6   | 136                      | 1.17    | 7.8         | 1.03   | 0.00  | 1.10    | 2.13   |
| 1999*                        | 381            | 2.6                 | 15.10             | 39,753   | 4.9   | 142                      | 1.37    | 9.1         | 1.01   | 0.00  | 0.70    | 1.71   |
| 2000                         | 412            | 2.7                 | 16.80             | 40,675   | 2.3   | 150                      | 1.81    | 10.8        | 0.84   | 0.00  | 0.56    | 1.40   |
| 2001                         | 433            | 2.7                 | 18.10             | 41,910   | 3.0   | 158                      | 1.95    | 10.8        | 0.84   | 0.00  | 0.54    | 1.38   |
| 2002*                        | 446            | 2.6                 | 19.30             | 43,342   | 3.4   | 171                      | 2.35    | 12.2        | 0.02   | 1.31  | **      | 1.33   |
| 2003#*                       | 454            | 2.6                 | 20.30             | 44,774   | 3.3   | 173                      | 2.58    | 12.7        | 0.02   | 6.78  | **      | 6.80   |
| 2004*                        | 464            | 2.5                 | 21.40             | 46,086   | 2.9   | 183                      | 3.03    | 14.2        | 0.00   | 13.03                                       | **      | 13.03  |
| 2005*                        | 428            | 2.0                 | 19.90             | 46,495   | 0.9   | 209                      | 4.00    | 20.1        | 0.00   | 14.56                                       | **      | 14.56  |
| 2006*                        | 421            | 1.9                 | 19.90             | 47,255   | 1.6   | 220                      | 4.56    | 22.9        | 2.83   | 13.41                                       | **      | 16.24  |
| 2007@                        | 390            | 1.7                 | 19.60             | 50,226   | 6.3   | 232                      | 5.25    | 26.8        | 2.84   | 14.04                                       | **      | 16.88  |
| 2008^                        | 376            | 1.5                 | 19.20             | 51,055   | 1.7   | 248                      | 5.75    | 30.0        | 3.02   | 14.08                                       | **      | 17.10  |
| 2009*                        | 363            | 1.4                 | 18.70             | 51,643   | 1.2   | 259                      | 6.16    | 32.8        | 3.08   | 15.76                                       | **      | 18.84  |
| 2010#                        | 341            | 1.2                 | 17.80             | 52,217   | 1.1   | 279                      | 6.96    | 39.1        | 3.08   | 17.49                                       | **      | 20.57  |
| 2011#*                       | 325            | 1.1                 | 16.83             | 51,783   | (0.8) | 290                      | 7.61    | 45.2        | 4.96   | 16.98                                       | **      | 21.94  |
| 2012                         | 297            | 1.0                 | 15.35             | 51,690   | (0.2) | 310                      | 8.50    | 55.3        | 4.95   | 21.40                                       | **      | 26.35  |

\* Retirement System amended in 1981, 1992, 1993, 1995, 1999, 2002, 2003, 2004, 2005, 2006, 2009, and 2011.

# Revised actuarial assumptions/methods in 1977, 1980, 1982, 1991, 1996, 1998, 2003, 2010, and 2011.

\*\* Health contributions now part of the actuarial valuation of the VEBA.

@ Union member valuation pay includes retroactive pay increases.

^ Reflects blended contribution rate due to mid-year benefit change.

**ACTUARIAL ACCRUED LIABILITIES & VALUATION ASSETS  
COMPARATIVE STATEMENT  
(EXCLUDING HEALTH INSURANCE)**

| Valuation<br>Date<br>June 30 | Actuarial<br>Accrued<br>Liability<br>(AAL) | Valuation<br>Assets | Unfunded<br>Actuarial<br>Accrued<br>Liability(UAAL) | Ratio of<br>Present<br>Assets<br>To AAL | Ratio of<br>UAAL to<br>Valuation<br>Payroll |
|------------------------------|--|---------------------|---|---|---|
| 1992*                        | \$ 26,062,993                              | \$ 33,685,516       | \$ (7,622,523)                                      | 129.2%                                  | -   |
| 1993*                        | 28,601,860                                 | 36,790,250          | (8,188,390)   | 128.6                                   | -   |
| 1994                         | 31,086,817                                 | 38,949,398          | (7,862,581)   | 125.3                                   | -   |
| 1995*                        | 33,438,557                                 | 42,264,824          | (8,826,267)   | 126.4                                   | -   |
| 1996#                        | 36,050,638                                 | 47,783,717          | (11,733,079)  | 132.5                                   | -   |
| 1997                         | 38,802,443                                 | 55,364,751          | (16,562,308)  | 142.7                                   | -   |
| 1998#                        | 38,965,113                                 | 65,858,898          | (26,893,785)  | 169.0                                   | -   |
| 1999*                        | 51,591,096                                 | 76,331,784          | (24,740,688)  | 147.9                                   | -   |
| 2000                         | 57,336,233                                 | 84,841,744          | (27,505,511)  | 148.0                                   | -   |
| 2001                         | 62,544,823                                 | 90,496,433          | (27,951,610)  | 144.7                                   | -   |
| 2002                         | 69,974,666                                 | 90,612,387          | (20,637,721)  | 129.5                                   | -   |
| 2003#                        | 80,951,012                                 | 90,504,421          | (9,553,409)   | 111.8                                   | -   |
| 2004*                        | 96,624,389                                 | 91,135,221          | 5,489,168   | 94.3                                    | 25.7%                                       |
| 2005*                        | 102,530,307                                | 91,997,445          | 10,532,862  | 89.7                                    | 52.9  |
| 2006*#                       | 115,954,378                                | 91,650,440          | 24,303,938  | 79.0                                    | 122.2                                       |
| 2007                         | 121,719,792                                | 96,080,024          | 25,639,768  | 78.9                                    | 130.9                                       |
| 2008                         | 127,770,829                                | 99,525,002          | 28,245,827  | 77.9                                    | 147.1                                       |
| 2009*                        | 127,271,637                                | 97,988,621          | 29,283,016  | 77.0                                    | 156.2                                       |
| 2010#                        | 132,949,733                                | 96,159,875          | 36,789,858  | 72.3                                    | 206.6                                       |
| 2011#*                       | 133,961,485                                | 97,303,073          | 36,658,412  | 72.6                                    | 217.8                                       |
| 2012                         | 137,687,797                                | 93,600,010          | 44,087,787  | 68.0                                    | 287.2                                       |

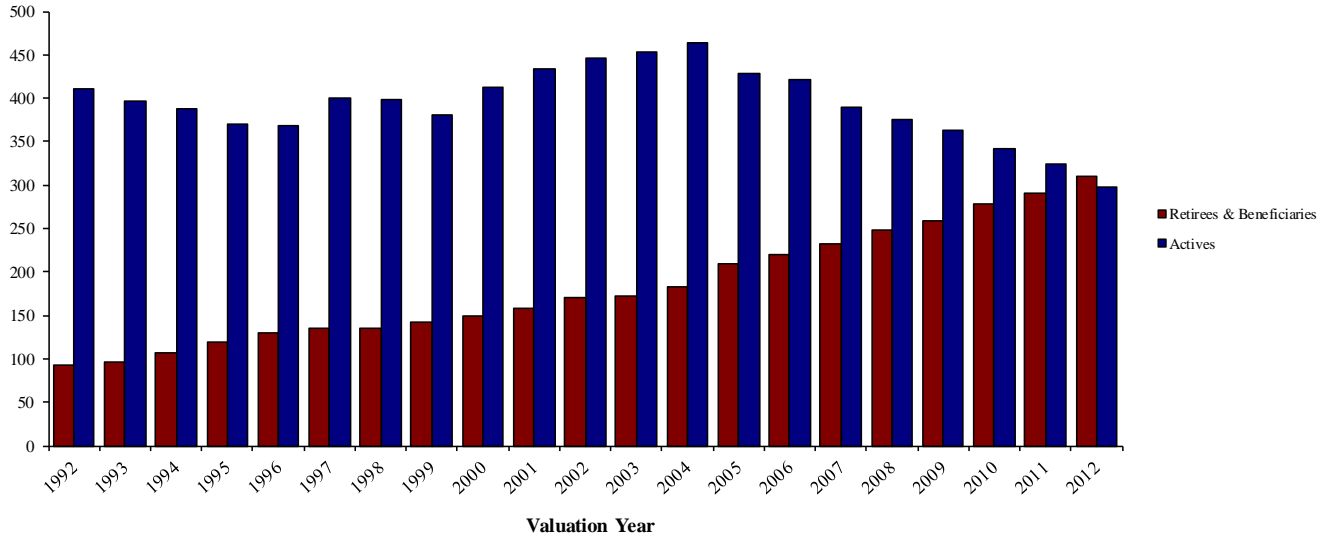
\* Retirement System amended.

# Revised actuarial assumptions and methods.

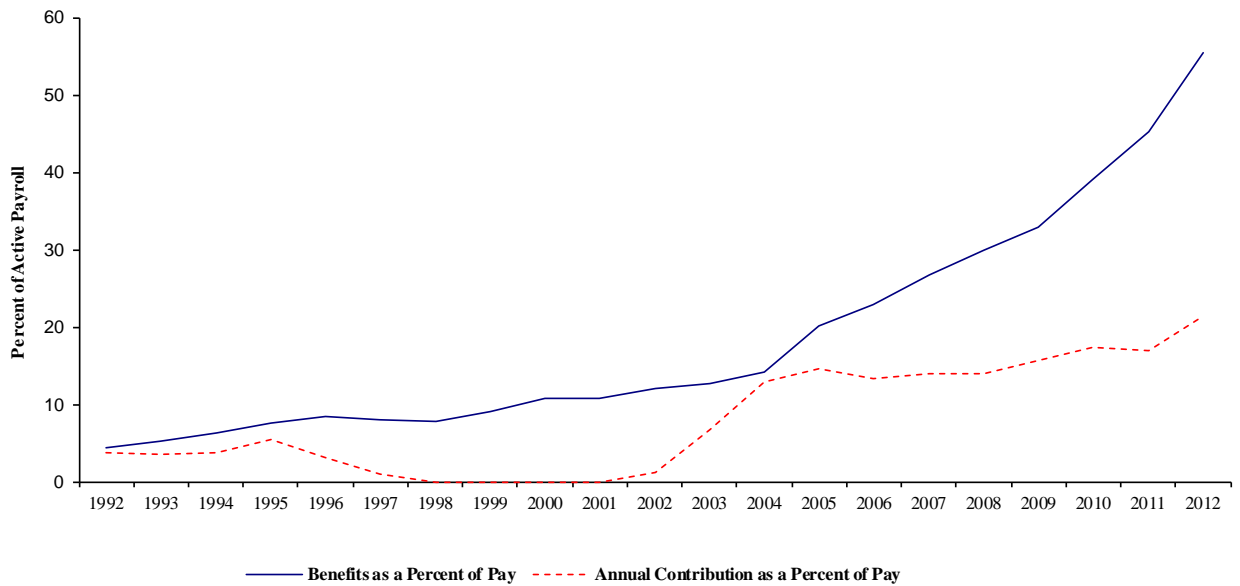
**The Ratio of Valuation Assets to AAL** is a traditional measure of a System's funding progress. Except in years when the System is amended or actuarial assumptions are revised, this ratio can be expected to gradually tend toward 100%.

**The Ratio of UAAL to Valuation Payroll** is another relative index of condition. Unfunded actuarial accrued liabilities represent debt, while active member payroll represents the System's capacity to collect contributions to pay toward debt. The lower the ratio, the greater the financial strength, or vice-versa.

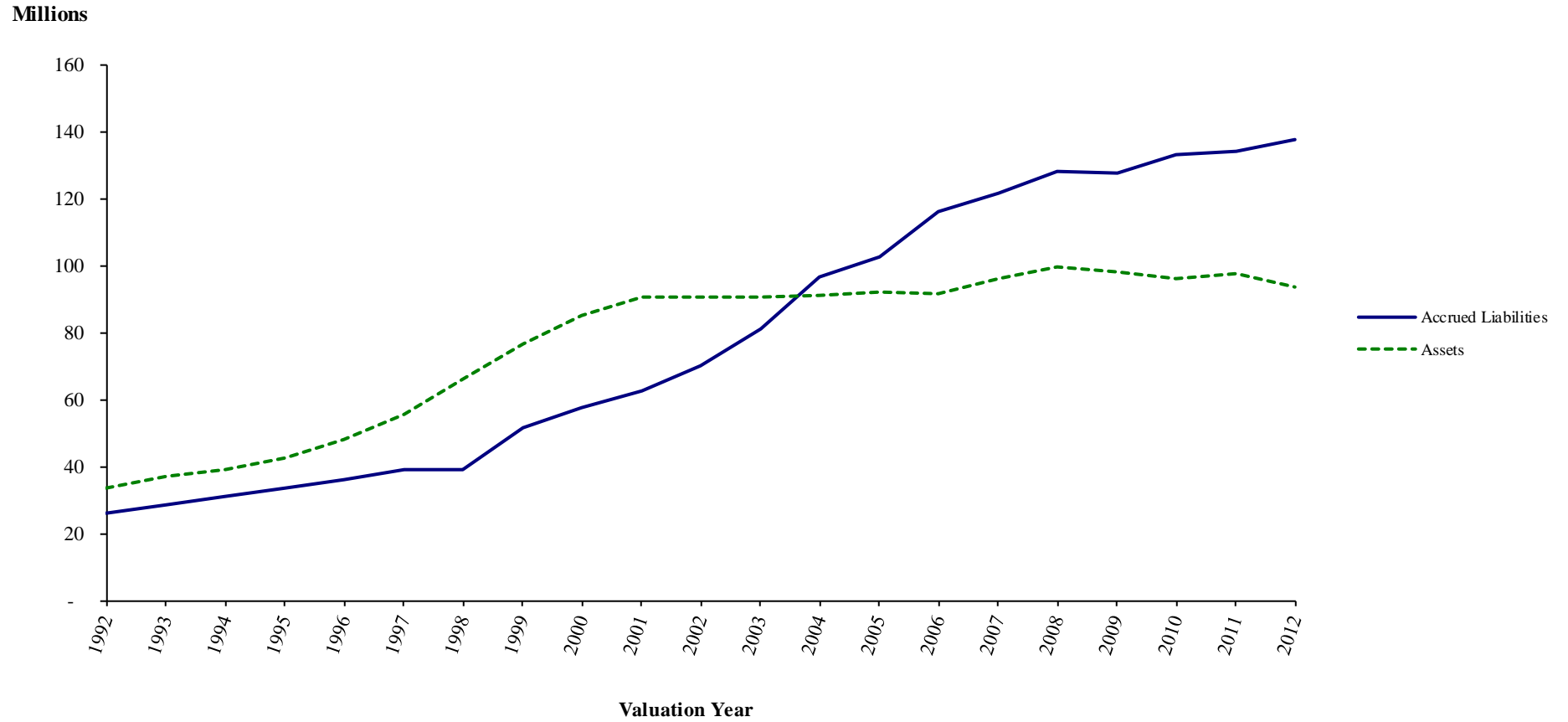
## Active and Retired Members



## Benefits and Employer Contributions as a Percent-of-Payroll



## ASSETS AND ACCRUED LIABILITIES (EXCLUDING HEALTH INSURANCE)





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**SECTION B**

SUMMARY OF BENEFIT PROVISIONS AND  
VALUATION DATA

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**SUMMARY OF BENEFIT PROVISIONS EVALUATED**  
**JUNE 30, 2012**  
**FOR PST MEMBERS HIRED PRIOR TO FEBRUARY 2, 2009 AND**  
**PSS MEMBERS HIRED PRIOR TO MARCH 2, 2009 AND**  
**ALL OTHER COVERED EMPLOYEES HIRED PRIOR TO JUNE 1, 2005**

***Regular Retirement (no reduction factor for age)***

***Eligibility*** - Sum of age and service equals 82, or age 65 with 5 or more years of service.

***Annual Amount*** - Total service times 2.5% of FAC.

***Type of Final Average Compensation*** - Highest 3 consecutive years out of last 5.

***Normal Form of Payment*** - Ten-year certain and life.

***Early Retirement (age reduction factor used)***

***Eligibility*** - Age 57 with 20 or more years of service or age 60 with 10 years of service.

***Annual Amount*** - Computed as regular retirement, but reduced 1/2 of 1% for each month by which retirement date precedes attainment of age 62 with 20 or more years of service or age 65 with 10 or more years of service.

***Deferred Retirement (vested benefits)***

***Eligibility*** - 10 or more years of service. Reduced benefit may begin at age 60 with 10 or more years of service. Full benefit eligibility at age 57 with 25 or more years of credited service; or 62 with 20 to 25 years of credited service; or 65 with 10 to 20 years of credited service, or sum of frozen years of credited service plus age equals 82 points.

***Annual Amount*** - Computed as regular retirement but based upon service and final average compensation and benefit levels in place at termination of covered employment.

***Duty Disability***

***Eligibility*** - No service requirement.

***Annual Amount*** - Computed as a regular retirement with additional service credit granted from date of disability to age 60 if under age 60. Worker's Compensation payments are offset.

**SUMMARY OF BENEFIT PROVISIONS EVALUATED**  
**JUNE 30, 2012**  
**FOR PST MEMBERS HIRED PRIOR TO FEBRUARY 2, 2009 AND**  
**PSS MEMBERS HIRED PRIOR TO MARCH 2, 2009 AND**  
**ALL OTHER COVERED EMPLOYEES HIRED PRIOR TO JUNE 1, 2005**  
**(CONTINUED)**

***Non-Duty Disability Retirement***

***Eligibility*** - 10 years of service.

***Annual Amount*** - Computed as regular retirement but based upon service and final average compensation at commencement of disability.

***Death-In-Service***

***Eligibility*** - 10 years of service.

***Annual Amount*** - Computed as regular retirement but based upon service and final average compensation on the day before death.

***Member Contributions***

Public Safety Technicians: None.

Public Safety Supervisors: None.

AFSCME: 5.41%, made as a salary reduction under 414(h) (3.41% prior to 11/1/2011).

All Others: 5.00%, made as a salary reduction under 414(h) (3.00% prior to 11/1/2011).

***Refund of Member Contributions***

***Public Safety Technicians*** - Member receives a refund of account balance as of 6/30/95 (with interest) upon commencement of Normal Retirement, Early Retirement, Disability Retirement, Death in Service or Deferred Retirement benefits.

***Public Safety Supervisors*** - Member receives a refund of entire account balance (with interest) upon commencement of Normal Retirement, Early Retirement, Disability Retirement, Death in Service or Deferred Retirement benefits.

***Others*** - Member receives a refund of account balance as of 6/30/2009 (with interest) upon commencement of Normal Retirement, Early Retirement, Disability Retirement, Death in Service or Deferred Retirement benefits. (The recently added member contribution requirements of 5% or 5.41% are excluded from this refund provision.)

**SUMMARY OF BENEFIT PROVISIONS EVALUATED**  
**JUNE 30, 2012**  
**FOR PST MEMBERS HIRED PRIOR TO FEBRUARY 2, 2009 AND**  
**PSS MEMBERS HIRED PRIOR TO MARCH 2, 2009 AND**  
**ALL OTHER COVERED EMPLOYEES HIRED PRIOR TO JUNE 1, 2005**  
**(CONTINUED)**

*Covered Compensation*

Items of compensation recognized for Retirement System purposes include: base salary, longevity pay, pay in lieu of holiday and/or vacation time for the current year, lump sum vacation payoff at retirement up to 400 hours maximum, and residency bonus. Items of compensation not recognized for retirement purposes are overtime pay, expense allowances, and lump sum payments at retirement in consideration of unused sick leave.

**SUMMARY OF BENEFIT PROVISIONS EVALUATED**  
**JUNE 30, 2012**  
**FOR PST MEMBERS HIRED ON OR AFTER FEBRUARY 2, 2009 AND**  
**PSS MEMBERS HIRED ON OR AFTER MARCH 2, 2009 AND**  
**ALL OTHER COVERED EMPLOYEES HIRED ON OR AFTER JUNE 1, 2005**  
**(CONTINUED)**

***Regular Retirement (no reduction factor for age)***

***Eligibility*** - Age 57 with 25 years of service, age 62 with 20 years of service, or age 65 with 10 or more years of service.

***Annual Amount*** - Total service times 2.0% of FAC. Maximum benefit is 70% of FAC.

***Type of Final Average Compensation*** - Highest 5 consecutive years out of last 10.

***Normal Form of Payment*** - Ten-year certain and life.

***Early Retirement (age reduction factor used)***

***Eligibility*** - Age 57 with 20 or more years of service or age 60 with 10 years of service.

***Annual Amount*** - Computed as regular retirement, but reduced 1/2 of 1% for each month by which retirement date precedes attainment of age 62 with 20 or more years of service or age 65 with 10 or more years of service.

***Deferred Retirement (vested benefits)***

***Eligibility*** - 10 or more years of service. Reduced benefit may begin at age 60 with 10 or more years of service. Full benefit eligibility at age 57 with 25 or more years of credited service; or 62 with 20 to 25 years of credited service; or 65 with 10 to 20 years of credited service.

***Annual Amount*** - Computed as regular retirement but based upon service and final average compensation and benefit levels in place at termination of covered employment.

***Duty Disability***

***Eligibility*** - No service requirement.

***Annual Amount*** - Computed as a regular retirement with additional service credit granted from date of disability to age 60 if under age 60. Worker's Compensation payments are offset.

**SUMMARY OF BENEFIT PROVISIONS EVALUATED**  
**JUNE 30, 2012**  
**FOR PST MEMBERS HIRED ON OR AFTER FEBRUARY 2, 2009 AND**  
**PSS MEMBERS HIRED ON OR AFTER MARCH 2, 2009 AND**  
**ALL OTHER COVERED EMPLOYEES HIRED ON OR AFTER JUNE 1, 2005**  
**(CONCLUDED)**

***Non-Duty Disability Retirement***

***Eligibility*** - 10 years of service.

***Annual Amount*** - Computed as regular retirement but based upon service and final average compensation at commencement of disability.

***Death-In-Service***

***Eligibility*** - 10 years of service.

***Annual Amount*** - Computed as regular retirement but based upon service and final average compensation on the day before death.

***Member Contributions***

AFSCME: 5.41%, made as a salary reduction under 414(h) (3.41% prior to 11/1/2011).  
Public Safety Technicians: 3.00%, made as a salary reduction under 414(h).  
Public Safety Supervisors: 3.00%, made as a salary reduction under 414(h).  
All Others: 5.00%, made as a salary reduction under 414(h) (3.00% prior to 11/1/2011).

***Refund of Member Contributions***

None.

***Covered Compensation***

Items of compensation recognized for Retirement System purposes include: base salary, longevity pay, pay in lieu of holiday and/or vacation time for the current year, lump sum vacation payoff at retirement up to 100 hours maximum, and residency bonus. Items of compensation not recognized for retirement purposes are overtime pay, expense allowances, and lump sum payments at retirement in consideration of unused sick leave.

**RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS  
COMPARATIVE STATEMENT**

| Year Ended<br>June 30 | Added to Rols |                 | Removed from Rols |                 | Rols End of Year |                 | Average Pension |
|-----------------------|---------------|-----------------|-------------------|-----------------|------------------|-----------------|-----------------|
|                       | No.           | Annual Pensions | No.               | Annual Pensions | No.              | Annual Pensions |                 |
| 1992                  | 11            | \$ 139,379      | 3                 | \$ 17,583       | 92               | \$ 605,396      | \$ 6,580        |
| 1993                  | 7             | 86,028          | 2                 | 3,843           | 97               | 687,581         | 7,088           |
| 1994                  | 11            | 154,826         | 1                 | 2,598           | 107              | 839,809         | 7,849           |
| 1995                  | 12            | 150,786         |                   |                 | 119              | 990,595         | 8,324           |
| 1996                  | 12            | 161,284         | 1                 | 22,994          | 130              | 1,128,885       | 8,684           |
| 1997                  | 5             | 49,333          |                   |                 | 135              | 1,178,218       | 8,728           |
| 1998                  | 6             | 43,438          | 5                 | 47,638          | 136              | 1,174,018       | 8,632           |
| 1999                  | 13            | 244,846         | 7                 | 45,153          | 142              | 1,373,711       | 9,674           |
| 2000                  | 13            | 526,417         | 5                 | 31,253          | 150              | 1,805,227       | 12,035          |
| 2001                  | 8             | 148,596         |                   |                 | 158              | 1,953,823       | 12,366          |
| 2002                  | 20            | 466,138         | 7                 | 70,436          | 171              | 2,349,525       | 13,740          |
| 2003                  | 13            | 349,624         | 11                | 121,044         | 173              | 2,578,105       | 14,902          |
| 2004                  | 15            | 474,390         | 5                 | 24,631          | 183              | 3,027,864       | 16,546          |
| 2005                  | 33            | 1,051,230       | 7                 | 77,869          | 209              | 4,001,225       | 19,145          |
| 2006                  | 15            | 627,079         | 4                 | 64,773          | 220              | 4,563,532       | 20,743          |
| 2007                  | 21            | 776,448         | 9                 | 93,812          | 232              | 5,246,168       | 22,613          |
| 2008                  | 22            | 608,934         | 6                 | 101,357         | 248              | 5,753,745       | 23,201          |
| 2009                  | 20            | 540,900         | 9                 | 136,703         | 259              | 6,157,942       | 23,776          |
| 2010                  | 22            | 823,801         | 2                 | 21,467          | 279              | 6,960,276       | 24,947          |
| 2011                  | 20            | 748,778         | 9                 | 101,215         | 290              | 7,607,839       | 26,234          |
| 2012                  | 26            | 956,865         | 6                 | 68,128          | 310              | 8,496,576       | 27,408          |

**RETIREES AND BENEFICIARIES JUNE 30, 2012**  
**TABULATED BY TYPE OF PENSIONS BEING PAID**

| <b>Type of Benefit</b>   | <b>No.</b> | <b>Annual<br/>Amount</b> |
|--|------------|--------------------------|
| <i>Age and Service Pensions</i>                                    |            |                          |
| Straight Life Pension - benefit<br>terminating at death of retiree | 52         | \$ 543,211               |
| For Life of Member, but not less than 10 years                     | 55         | 1,733,463                |
| Option I - Joint and Survivor<br>Pensions                          | 32         | 1,000,620                |
| Option II - Modified Joint and<br>Survivor Pensions                | 132        | 4,619,254                |
| Survivor Beneficiary   | 17         | 211,380                  |
| Total Age and Service Pensions                                     | 288        | 8,107,928                |
| <i>Casualty Pensions</i>   |            |                          |
| Duty Disability  | 2          | 25,087                   |
| Non-Duty Disability  | 9          | 166,970                  |
| Duty Death - Survivor Benefits                                     | 1          | 22,804                   |
| Non-Duty Death - Survivor Benefits                                 | 10         | 173,787                  |
| Total Casualty   | 22         | 388,648                  |
| <b>Total Pensions Being Paid</b>                                   | <b>310</b> | <b>\$8,496,576</b>       |



**RETIREES AND BENEFICIARIES JUNE 30, 2012**  
**TABULATED BY ATTAINED AGES**

| Attained<br>Ages | Age and Service |                     | Casualty  |                    | Totals     |                     |
|------------------|-----------------|---------------------|-----------|--------------------|------------|---------------------|
|                  | No.             | Annual<br>Pensions  | No.       | Annual<br>Pensions | No.        | Annual<br>Pensions  |
| 50 - 54          | 3               | \$ 196,745          | 1         | \$ 20,652          | 4          | \$ 217,397          |
| 55 - 59          | 24              | 1,122,785           | 4         | 80,035             | 28         | 1,202,820           |
| 60 - 64          | 64              | 2,390,899           | 3         | 71,809             | 67         | 2,462,708           |
| 65 - 69          | 52              | 1,716,330           | 5         | 76,401             | 57         | 1,792,731           |
| 70 - 74          | 50              | 1,327,344           | 4         | 71,833             | 54         | 1,399,177           |
| 75 - 79          | 29              | 573,419             | 2         | 28,340             | 31         | 601,759             |
| 80 - 84          | 36              | 491,589             | 2         | 33,077             | 38         | 524,666             |
| 85 - 89          | 18              | 186,119             | 1         | 6,501              | 19         | 192,620             |
| 90 - 94          | 9               | 78,116              |           |                    | 9          | 78,116              |
| 95 - 99          | 3               | 24,582              |           |                    | 3          | 24,582              |
| <b>Totals</b>    | <b>288</b>      | <b>\$ 8,107,928</b> | <b>22</b> | <b>\$ 388,648</b>  | <b>310</b> | <b>\$ 8,496,576</b> |

Average Age at Retirement: 61.6 years

Average Age Now: 71.2 years

**RETIREES AND BENEFICIARIES JUNE 30, 2012**  
**TABULATED BY YEAR OF RETIREMENT**

| Year of Retirement | Number     | Annual Pensions     |                  |
|--------------------|------------|---------------------|------------------|
|                    |            | Totals              | Average          |
| 1977               | 1          | \$ 9,853            | \$ 9,853         |
| 1981               | 3          | 8,256               | 2,752            |
| 1982               | 1          | 4,837               | 4,837            |
| 1984               | 6          | 38,265              | 6,378            |
| 1985               | 1          | 4,382               | 4,382            |
| 1986               | 3          | 29,919              | 9,973            |
| 1987               | 5          | 54,031              | 10,806           |
| 1988               | 3          | 24,028              | 8,009            |
| 1989               | 3          | 26,334              | 8,778            |
| 1990               | 2          | 15,528              | 7,764            |
| 1991               | 7          | 78,588              | 11,227           |
| 1992               | 4          | 71,129              | 17,782           |
| 1993               | 8          | 141,238             | 17,655           |
| 1994               | 6          | 85,535              | 14,256           |
| 1995               | 9          | 131,638             | 14,626           |
| 1996               | 7          | 85,687              | 12,241           |
| 1997               | 5          | 44,481              | 8,896            |
| 1998               | 6          | 77,873              | 12,979           |
| 1999               | 13         | 286,496             | 22,038           |
| 2000               | 13         | 282,964             | 21,766           |
| 2001               | 13         | 243,344             | 18,719           |
| 2002               | 11         | 211,161             | 19,196           |
| 2003               | 4          | 180,464             | 45,116           |
| 2004               | 23         | 730,980             | 31,782           |
| 2005               | 26         | 1,087,506           | 41,827           |
| 2006               | 14         | 568,990             | 40,642           |
| 2007               | 21         | 753,288             | 35,871           |
| 2008               | 18         | 445,956             | 24,775           |
| 2009               | 17         | 663,912             | 39,054           |
| 2010               | 16         | 544,632             | 34,040           |
| 2011               | 28         | 1,052,784           | 37,599           |
| 2012               | 13         | 512,497             | 39,423           |
| <b>Totals</b>      | <b>310</b> | <b>\$ 8,496,576</b> | <b>\$ 27,408</b> |

**INACTIVE VESTED MEMBERS JUNE 30, 2012**  
**TABULATED BY ATTAINED AGE**

| <b>Attained Age</b> | <b>No.</b> | <b>Estimated Annual Pensions</b> |
|---------------------|------------|----------------------------------|
| 45 - 49             | 7          | \$ 91,485                        |
| 50 - 54             | 16         | 266,983                          |
| 55 - 59             | 5          | 52,728                           |
| 60 - 64             | 2          | 30,992                           |
| <b>Totals</b>       | <b>30</b>  | <b>\$ 442,188</b>                |

Average Age at Termination: 43.2 years

Average Age Now: 52.9 years

**ACTIVE MEMBERS JUNE 30, 2012**  
**TABULATED BY VALUATION DIVISIONS**

| Valuation Division        | No.        | Annual Payroll       | Average Age | Average Service |
|---------------------------|------------|----------------------|-------------|-----------------|
| Union Members             |            |                      |             |                 |
| Tier I                    | 201        | \$ 10,100,179        | 51.0 years  | 15.7 years      |
| Tier II                   | 2          | 77,732               | 47.4        | 3.3             |
| Public Safety Supervisors |            |                      |             |                 |
| Tier I                    | 5          | 278,493              | 47.8        | 15.1            |
| Tier II                   | 0          | 0                    | 0.0         | 0.0             |
| Non-Union Members         |            |                      |             |                 |
| Tier I                    | 47         | 2,900,926            | 50.6        | 17.9            |
| Tier II                   | 11         | 574,402              | 48.2        | 3.5             |
| Career Center Members     |            |                      |             |                 |
| Tier I                    | 14         | 635,250              | 44.4        | 13.9            |
| Tier II                   | 3          | 119,758              | 46.3        | 3.0             |
| Public Safety Technicians |            |                      |             |                 |
| Tier I                    | 13         | 619,906              | 46.2        | 15.8            |
| Tier II                   | 1          | 45,303               | 27.0        | 3.3             |
| <b>Totals</b>             | <b>297</b> | <b>\$ 15,351,949</b> | <b>50.1</b> | <b>15.4</b>     |

## ACTIVE MEMBERS ADDED TO AND REMOVED FROM ROLLS

| Year Ended<br>June 30 | Number Added<br>During<br>Year | Terminations During Year |       |          |     |                 |      |            |       |       |       | Active<br>Members<br>End of<br>Year |
|-----------------------|--------------------------------|--------------------------|-------|----------|-----|-----------------|------|------------|-------|-------|-------|-------------------------------------|
|                       |                                | Normal Retirement        |       | Disabled |     | Died-In-Service |      | Withdrawal |       |       |       |                                     |
|                       |                                | A                        | E     | A        | E   | A               | E    | Vested     | Other | Total |       |                                     |
|                       |                                |                          |       |          |     |                 |      | A          |       | A     | A     |                                     |
| 1988                  | 28                             | 7                        | 5.6   | 0        | 1.4 | 1               | 1.3  | 2          | 12    | 14    | 24.0  | 374                                 |
| 1989                  | 37                             | 6                        | 5.3   | 0        | 1.4 | 0               | 1.2  | 4          | 16 *  | 20    | 21.3  | 385                                 |
| 1990                  | 51                             | 6                        | 5.5   | 0        | 1.5 | 1               | 1.3  | 3          | 25 *  | 28    | 20.5  | 401                                 |
| 1991                  | 28                             | 2                        | 6.9   | 1        | 1.5 | 0               | 1.4  | 0          | 21 *  | 21    | 22.4  | 405                                 |
| 1992                  | 25                             | 11                       | 10.6  | 0        | 1.2 | 0               | 1.1  | 2          | 8     | 10    | 19.7  | 409                                 |
| 1993                  | 14                             | 7                        | 9.8   | 1        | 1.2 | 0               | 1.1  | 1          | 17    | 18    | 18.0  | 397                                 |
| 1994                  | 24                             | 8                        | 13.5  | 1        | 1.1 | 4               | 1.1  | 2          | 19    | 21    | 15.6  | 387                                 |
| 1995                  | 2                              | 12                       | 11.3  | 0        | 1.2 | 0               | 1.0  | 0          | 9     | 9     | 15.2  | 370                                 |
| 1996                  | 33                             | 9                        | 11.0  | 1        | 1.2 | 1               | 1.0  | 2          | 19    | 21    | 12.1  | 369                                 |
| 1997                  | 56                             | 5                        | 10.8  | 1        | 1.2 | 0               | 1.0  | 4          | 14    | 18    | 13.8  | 401                                 |
| 1998                  | 24                             | 5                        | 9.0   | 0        | 1.3 | 0               | 1.1  | 4          | 17    | 21    | 17.4  | 399                                 |
| 1999                  | 26                             | 12                       | 10.5  | 1        | 1.4 | 2               | 1.1  | 4          | 25    | 29    | 16.5  | 381                                 |
| 2000                  | 64                             | 7                        | 11.7  | 1        | 1.0 | 1               | 0.9  | 2          | 22    | 24    | 14.5  | 412                                 |
| 2001                  | 44                             | 7                        | 7.9   | 0        | 1.0 | 1               | 1.0  | 4          | 11    | 15    | 20.4  | 433                                 |
| 2002                  | 42                             | 8                        | 8.7   | 2        | 1.0 | 1               | 1.0  | 3          | 15    | 18    | 21.6  | 446                                 |
| 2003                  | 24                             | 4                        | 11.3  | 0        | 1.0 | 1               | 1.1  | 4          | 7     | 11    | 21.4  | 454                                 |
| 2004                  | 31                             | 11                       | 11.5  | 1        | 0.8 | 0               | 1.1  | 1          | 8     | 9     | 13.8  | 464                                 |
| 2005                  | 10                             | 29                       | 14.5  | 0        | 0.8 | 2               | 1.2  | 2          | 13    | 15    | 24.7  | 428                                 |
| 2006                  | 11                             | 11                       | 11.9  | 0        | 0.9 | 0               | 1.1  | 1          | 6     | 7     | 20.9  | 421                                 |
| 2007                  | 4                              | 18                       | 12.9  | 0        | 1.0 | 2               | 1.1  | 5          | 10    | 15    | 15.9  | 390                                 |
| 2008                  | 11                             | 16                       | 12.7  | 0        | 0.9 | 1               | 1.1  | 1          | 7     | 8     | 15.7  | 376                                 |
| 2009                  | 7                              | 13                       | 12.0  | 2        | 0.9 | 0               | 1.1  | 2          | 3     | 5     | 14.1  | 363                                 |
| 2010                  | 2                              | 19                       | 12.9  | 0        | 1.0 | 1               | 1.2  | 1          | 3     | 4     | 12.8  | 341                                 |
| 2011                  | 4                              | 18                       | 13.0  | 0        | 1.1 | 0               | 1.3  | 1          | 1     | 2     | 10.7  | 325                                 |
| 2012                  | 1                              | 23                       | 13.3  | 1        | 0.9 | 0               | 0.4  | 1          | 4     | 5     | 6.7   | 297                                 |
| 5-Year<br>Totals      | 25                             | 89                       | 63.9  | 3        | 4.8 | 2               | 5.1  | 6          | 18    | 24    | 60.0  |                                     |
| 10-Year<br>Totals     | 105                            | 162                      | 126.0 | 4        | 9.3 | 7               | 10.7 | 19         | 62    | 81    | 156.7 |                                     |

A = actual

E = expected

\* Includes people reported on leave of absence.

## ACTIVE MEMBERS AT YEAR END

| Year                | Number | Valuation<br>Payroll<br>\$ Millions | Averages     |                  |           |        |
|---------------------|--------|-------------------------------------|--------------|------------------|-----------|--------|
|                     |        |                                     | Age<br>Years | Service<br>Years | Pay       | % Inc. |
| 1988                | 374    | \$ 10.3                             | 42.9         | 9.0              | \$ 27,646 | 6.4%   |
| 1989                | 385    | 11.0                                | 43.0         | 9.2              | 28,510    | 3.1    |
| 1990                | 401    | 11.7                                | 43.0         | 9.2              | 29,101    | 2.1    |
| 1991                | 405    | 12.8                                | 43.8         | 9.8              | 31,520    | 8.3    |
| 1992                | 409    | 13.3                                | 43.8         | 10.0             | 32,513    | 3.2    |
| 1993                | 397    | 13.2                                | 44.1         | 10.6             | 33,235    | 2.2    |
| 1994                | 387    | 13.3                                | 44.4         | 11.0             | 34,343    | 3.3    |
| 1995                | 370    | 13.1                                | 45.0         | 11.8             | 35,304    | 2.8    |
| 1996                | 369    | 13.3                                | 45.1         | 11.7             | 36,069    | 2.2    |
| 1997                | 401    | 14.5                                | 45.0         | 11.3             | 36,240    | 0.5    |
| 1998                | 399    | 15.1                                | 45.7         | 11.8             | 37,895    | 4.6    |
| 1999                | 381    | 15.1                                | 46.2         | 12.3             | 39,753    | 4.9    |
| 2000                | 412    | 16.8                                | 46.0         | 11.6             | 40,675    | 2.3    |
| 2001                | 433    | 18.1                                | 46.1         | 11.5             | 41,910    | 3.0    |
| 2002                | 446    | 19.3                                | 46.2         | 11.5             | 43,342    | 3.4    |
| 2003                | 454    | 20.3                                | 46.8         | 11.9             | 44,774    | 3.3    |
| 2004                | 464    | 21.4                                | 47.3         | 12.1             | 46,086    | 2.9    |
| 2005                | 428    | 19.9                                | 47.5         | 12.2             | 46,495    | 0.9    |
| 2006                | 421    | 19.9                                | 48.0         | 12.5             | 47,255    | 1.6    |
| 2007 <sup>(1)</sup> | 390    | 19.6                                | 48.3         | 12.9             | 50,226    | 6.3    |
| 2008 <sup>(2)</sup> | 376    | 19.2                                | 48.6         | 13.4             | 51,055    | 1.7    |
| 2009                | 363    | 18.7                                | 49.2         | 13.8             | 51,643    | 1.2    |
| 2010                | 341    | 17.8                                | 49.5         | 14.4             | 52,217    | 1.1    |
| 2011                | 325    | 16.8                                | 50.0         | 14.8             | 51,783    | (0.8)  |
| 2012                | 297    | 15.4                                | 50.1         | 15.4             | 51,690    | (0.2)  |

<sup>(1)</sup> Union member valuation pay includes retroactive pay increases.

<sup>(2)</sup> Pay for Public Safety Supervisors and Public Safety Technicians includes load for expected contract increases.

**ACTIVE MEMBERS JUNE 30, 2012  
BY ATTAINED AGE AND YEARS OF SERVICE**

| Attained Age  | Years of Service to Valuation Date |           |            |           |           |           |          | Totals     |                      |
|---------------|------------------------------------|-----------|------------|-----------|-----------|-----------|----------|------------|----------------------|
|               | 0-4                                | 5-9       | 10-14      | 15-19     | 20-24     | 25-29     | 30 Plus  | No.        | Valuation Payroll    |
| 25-29         | 3                                  | 1         |            |           |           |           |          | 4          | \$ 147,697           |
| 30-34         | 1                                  | 3         | 2          |           |           |           |          | 6          | 254,654              |
| 35-39         | 2                                  | 6         | 18         | 3         |           |           |          | 29         | 1,443,130            |
| 40-44         | 2                                  | 8         | 26         | 6         | 2         |           |          | 44         | 2,250,474            |
| 45-49         |                                    | 9         | 16         | 10        | 11        | 2         |          | 48         | 2,467,250            |
| 50-54         | 1                                  | 6         | 17         | 11        | 13        | 12        | 2        | 62         | 3,198,243            |
| 55-59         | 1                                  | 4         | 20         | 8         | 16        | 8         | 1        | 58         | 3,055,624            |
| 60-64         | 4                                  | 7         | 11         | 7         | 6         | 4         |          | 39         | 1,962,839            |
| 65-69         | 1                                  |           | 1          |           | 1         | 1         |          | 4          | 251,546              |
| 70-74         |                                    |           |            | 1         |           | 1         | 1        | 3          | 320,492              |
| <b>Totals</b> | <b>15</b>                          | <b>44</b> | <b>111</b> | <b>46</b> | <b>49</b> | <b>28</b> | <b>4</b> | <b>297</b> | <b>\$ 15,351,949</b> |

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

Age: 50.1 years

Service: 15.4 years

Annual Pay: \$ 51,690

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## **SECTION C**

### **SUMMARY OF VALUATION METHODS AND ASSUMPTIONS**

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## ACTUARIAL COST METHOD

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

- The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
- each annual normal cost is a constant percentage of the member's year by year projected covered pay;
- the normal cost is based on the benefit provisions applicable for employees hired on or after June 1, 2005 (February 2, 2009 for PST and March 2, 2009 for PSS).

*Financing of Unfunded Actuarial Accrued Liabilities.* The unfunded actuarial accrued liability (UAAL) was determined using the funding value of assets and actuarial accrued liability calculated as of the valuation date. The UAAL amortization payment (one component of the contribution requirement), is the level percent of pay required to fully amortize the UAAL over a 28 year period beginning on the valuation date. This UAAL payment does not reflect any payments expected to be made between the valuation date and the date contributions determined by this report are scheduled to begin.

*Funding Value of Assets.* The Funding Value of Assets used for funding purposes is derived as follows: prior year Funding Value of Assets are increased by contribution and expected investment income and reduced by refunds, benefit payments and expenses. To this amount is added 20% of the difference between expected and actual investment income for each of the previous five years.

## ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

The actuary calculates the contribution requirements and benefit values of the System by applying actuarial assumptions to the benefit provisions and member information furnished, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experience are:

- Long-term rates of investment return to be generated by the assets of the System,
- patterns of pay increases to members,
- rates of mortality among members, retirees and beneficiaries,
- rates of withdrawal of active members (without entitlement to a retirement benefit),
- rates of disability among members,
- the age patterns of actual retirements.

In a valuation, the actuary calculates the monetary effect of each assumption for as long as a present covered person survives - - - a period of time which can be as long as a century.

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Actual experience of the System will not coincide exactly with assumed experience, regardless of the accuracy of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). New assumptions pursuant to the Experience Study dated July 27, 2011 were adopted for the June 30, 2011 valuation.

**The rate of investment return** was 8.0% per year, compounded annually (net of administrative and investment expenses). This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time. The assumed real rate of return (the net return in excess of the wage inflation rate) was 4.5%. Economic experience during the last 5 years is shown in the table below:

|                               | <b>Year Ending June 30</b> |             |             |             |             | <b>5-Year Average</b> |
|-------------------------------|----------------------------|-------------|-------------|-------------|-------------|-----------------------|
|                               | <b>2012</b>                | <b>2011</b> | <b>2010</b> | <b>2009</b> | <b>2008</b> |                       |
| 1) Nominal recognized rate    | 2.2%                       | 6.0%        | 2.2%        | 1.9%        | 7.2%        | 3.9%                  |
| 2) Increase in CPI            | 1.7                        | 3.6         | 1.1         | (1.4)       | 5.0         | 2.0                   |
| 3) Average salary increase    | (0.2)                      | (0.8)       | 1.1         | 1.2         | 1.7         | 0.6                   |
| 4) Real return as measured by |                            |             |             |             |             |                       |
| - CPI: (1)-(2)                |                            |             |             |             |             | 1.9                   |
| - Wage inflation: (1)-(3)     |                            |             |             |             |             | 3.3                   |

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

**The rates of salary increase** used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

| <b>Sample Ages</b> | <b>Salary Increase Assumptions for an Individual Member</b> |                        |                           |
|--------------------|---|------------------------|---------------------------|
|                    | <b>Merit &amp; Seniority</b>                                | <b>Base (Economic)</b> | <b>Increase Next Year</b> |
| 20                 | 6.0%  | 3.5%                   | 9.5%                      |
| 25                 | 5.0   | 3.5                    | 8.5                       |
| 30                 | 2.8   | 3.5                    | 6.3                       |
| 35                 | 1.5   | 3.5                    | 5.0                       |
| 40                 | 0.8   | 3.5                    | 4.3                       |
| 45                 | 0.8   | 3.5                    | 4.3                       |
| 50                 | 0.5   | 3.5                    | 4.0                       |
| 55                 | 0.5   | 3.5                    | 4.0                       |
| 60                 | 0.0   | 3.5                    | 3.5                       |
| 65                 | 0.0   | 3.5                    | 3.5                       |

If the number of active members remains constant, then the total active member payroll will increase 3.5% annually, the base portion of the individual salary increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

*The mortality table* was RP-2000 mortality table projected to 2015 with a 1 year set-forward for males.

| Sample<br>Ages | Value at Retirement:<br>\$1 Monthly for Life |          | Future Life<br>Expectancy (years) |       |
|----------------|--|----------|-----------------------------------|-------|
|                | Men  | Women    | Men                               | Women |
| 50             | \$136.67                                     | \$139.78 | 31.3                              | 34.4  |
| 55             | 129.36                                       | 133.53   | 26.7                              | 29.6  |
| 60             | 119.98                                       | 125.50   | 22.2                              | 25.1  |
| 65             | 108.65                                       | 115.70   | 18.0                              | 20.8  |
| 70             | 95.46  | 104.31   | 14.2                              | 16.9  |
| 75             | 80.15  | 91.31    | 10.7                              | 13.3  |
| 80             | 63.89  | 76.72    | 7.7                               | 10.1  |

This assumption is used to measure the probabilities of each benefit payment being made after retirement. We estimate that these rates include a margin for future mortality improvement of approximately 3% for females and no margin for males.

Fifty percent of these rates are used to measure the probabilities of members dying before retirement.

*The rates of retirement* used to measure the probability of eligible members retiring during the next year were as follows:

| Retirement<br>Ages | Percents of Active Members Retiring Within Next Year |                  |            |
|--------------------|--|------------------|------------|
|                    | Normal Retirement                                    | Early Retirement | Rule of 82 |
| 50                 |  |                  | 20%        |
| 51                 |  |                  | 20         |
| 52                 |  |                  | 20         |
| 53                 |  |                  | 20         |
| 54                 |  |                  | 20         |
| 55                 |  |                  | 20         |
| 56                 |  |                  | 20         |
| 57                 | 20%  | 5%               | 20         |
| 58                 | 20   | 5                | 20         |
| 59                 | 20   | 10               | 20         |
| 60                 | 20   | 5                | 20         |
| 61                 | 20   | 5                | 20         |
| 62                 | 35   | 25               | 35         |
| 63                 | 15   | 10               | 15         |
| 64                 | 15   | 10               | 15         |
| 65                 | 15   | 100              | 15         |
| 66                 | 40   |                  | 40         |
| 67                 | 40   |                  | 40         |
| 68                 | 40   |                  | 40         |
| 69                 | 40   |                  | 40         |
| 70                 | 100  |                  | 100        |

*PST members hired prior to February 2, 2009, PSS members hired prior to March 2, 2009, and All Other Covered Employees hired prior to June 1, 2005:* assumed to be eligible for normal retirement when the sum of their age and service is at least 82, or age 65 with 5 or more years of service. A member was assumed to be eligible for early retirement after attaining age 57 with 20 or more years of service or age 60 with 10 or more years of service.

*PST members hired on or after February 2, 2009, PSS members hired on or after March 2, 2009, and All Other Covered Employees hired on or after June 1, 2005:* assumed to be eligible for normal retirement at age 57 with 25 or more years of service, age 62 with 20 or more years of service, or age 65 with 10 or more years of service. A member was assumed to be eligible for early retirement after attaining age 57 with 20 or more years of service or age 60 with 10 or more years of service.

*Rates of separation from active membership* were as shown below (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.

| <b>Sample<br/>Ages</b> | <b>Years of<br/>Service</b> | <b>% of Active<br/>Separating</b> |
|------------------------|-----------------------------|-----------------------------------|
| ALL                    | 0                           | 20.00%                            |
|                        | 1                           | 15.00                             |
|                        | 2                           | 10.00                             |
|                        | 3                           | 5.00                              |
|                        | 4                           | 5.00                              |
|                        | 5                           | 5.00                              |
|                        | 6                           | 5.00                              |
|                        | 7                           | 3.00                              |
|                        | 8                           | 2.50                              |
|                        | 9                           | 2.00                              |
|                        | 10 & Over                   |                                   |
| 20                     |                             | 9.00                              |
| 25                     |                             | 9.00                              |
| 30                     |                             | 5.45                              |
| 35                     |                             | 4.60                              |
| 40                     |                             | 2.95                              |
| 45                     |                             | 1.45                              |
| 50                     |                             | 0.95                              |
| 55                     |                             | 0.95                              |
| 60                     |                             | 0.95                              |
| 65                     |                             | 0.95                              |

*Rates of disability* were as follows:

| <b>Sample<br/>Ages</b> | <b>% of Active<br/>Becoming Disabled</b> |
|------------------------|--|
| 20                     | 0.04%                                    |
| 25                     | 0.04                                     |
| 30                     | 0.04                                     |
| 35                     | 0.05                                     |
| 40                     | 0.12                                     |
| 45                     | 0.23                                     |
| 50                     | 0.38                                     |
| 55                     | 0.67                                     |
| 60                     | 1.78                                     |
| 65                     | 0.00                                     |

*Expense Load.* None.

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

|   |  |
|---|--|
| <b>Marriage Assumption:</b>                                       | 100% of members are assumed to be married for purposes of valuing death-in-service benefits.   |
| <b>Pay Increase Timing:</b>                                       | Beginning of the fiscal year.  |
| <b>Decrement Timing:</b>  | Decrements of all types are assumed to occur mid-year.   |
| <b>Eligibility Testing:</b>                                       | 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.   |
| <b>Benefit Service:</b>   | Exact fractional service as of the valuation date is used to determine the amount of benefit payable.  |
| <b>Decrement Relativity:</b>                                      | Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.  |
| <b>Other:</b>   | Disability and withdrawal decrements do not operate after member reaches retirement eligibility. All decrements operate during the first 10 years of service.  |
| <b>Miscellaneous Adjustment Factors:</b>                          | A load of 1.0% is used to approximate the value of the lump sum vacation payoff for the Union, Non-Union, and Career Center groups for members hired on or after June 1, 2005, PST members hired on or after February 2, 2009, and PSS members hired on or after March 2, 2009. For members hired before these dates, a 3% load is used. |
| <b>Actuarial Equivalence Basis for Optional Forms of Payment:</b> | 7.0% interest with a 90%/10% unisex blend of the 1971 Group Annuity Mortality Table set back 0 years and the 1971 Group Annuity Mortality Table set back 5 years.  |

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## **SECTION D**

### **GASB STATEMENT NO. 25**

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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 may maintain consistency with the City's financial statements.



**GASB STATEMENT NO. 25**  
**REQUIRED SUPPLEMENTARY INFORMATION**

*Schedule of Funding Progress*

| <b>Actuarial<br/>Valuation<br/>Date</b> | <b>Actuarial<br/>Value of<br/>Assets<br/>(a)</b> | <b>Actuarial<br/>Accrued<br/>Liability (AAL)<br/>-- Entry-Age<br/>(b)</b> | <b>Unfunded<br/>AAL<br/>(UAAL)<br/>(b-a)</b> | <b>Funded<br/>Ratio<br/>(a/b)</b> | <b>Covered<br/>Payroll<br/>(\$ millions)<br/>(c)</b> | <b>UAAL as a<br/>% of<br/>Covered<br/>Payroll<br/>((b-a)/c)</b> |
|---|--|---|--|-----------------------------------|--|---|
| 2003 ##                                 | \$90,504,421                                     | \$ 80,951,012   | \$ (9,553,409)                               | 111.8%                            | \$20.3   | - %   |
| 2004 ##                                 | 91,135,221                                       | 96,624,389  | 5,489,168                                    | 94.3                              | 21.4   | 25.7  |
| 2005 ##                                 | 91,997,445                                       | 102,530,307   | 10,532,862                                   | 89.7                              | 19.9   | 52.9  |
| 2006 ##                                 | 91,650,440                                       | 115,954,378   | 24,303,938                                   | 79.0                              | 19.9   | 122.2   |
| 2007                                    | 96,080,024                                       | 121,719,792   | 25,639,768                                   | 78.9                              | 19.6   | 130.9   |
| 2008                                    | 99,525,002                                       | 127,770,829   | 28,245,827                                   | 77.9                              | 19.2   | 147.1   |
| 2009 ##                                 | 97,988,621                                       | 127,271,637   | 29,283,016                                   | 77.0                              | 18.7   | 156.2   |
| 2010 ##                                 | 96,159,875                                       | 132,949,733   | 36,789,858                                   | 72.3                              | 17.8   | 206.6   |
| 2011 ##                                 | 97,303,073                                       | 133,961,485   | 36,658,412                                   | 72.6                              | 16.8   | 217.8   |
| 2012                                    | 93,600,010                                       | 137,687,797   | 44,087,787                                   | 68.0                              | 15.4   | 287.2   |

## Revised actuarial assumptions, methods, and/or benefit changes.

**GASB STATEMENT NO. 25**  
**REQUIRED SUPPLEMENTARY INFORMATION**

*Schedule of Employer Contributions*

| Valuation<br>Year<br>Ended<br>June 30 | Fiscal<br>Year<br>Ended<br>June 30 | Contribution Rate<br>as % of<br>Valuation<br>Payroll | Computed Dollar<br>Contribution<br>Based on<br>Valuation<br>Payroll | Annual<br>Required<br>Contribution<br>Based on<br>Actual Payroll* | %<br>Contributed |
|---------------------------------------|------------------------------------|--|---|---|------------------|
| 2003                                  | 2005                               | 6.78 %   | \$ 1,440,219  | \$ 1,565,071  | 100%             |
| 2004**                                | 2006                               | 13.03  | 2,911,677   | 2,575,412   | 100              |
| 2005**                                | 2007                               | 14.56  | 2,852,011   | 2,962,888   | 100              |
| 2006**                                | 2008                               | 13.41  | 2,574,275   | 2,697,591   | 100              |
| 2007**                                | 2009                               | 14.04  | 2,631,991   | 2,809,926   | 100              |
| 2008**                                | 2010                               | 14.08#   | 2,507,100   | 2,689,560   | 100              |
| 2009**                                | 2011                               | 15.76  | 2,652,324   | 2,804,144   | 100              |
| 2010**                                | 2012                               | 17.49  | 2,685,056   | 2,660,847   | 100              |
| 2011**                                | 2013                               | 16.98  |   |   |                  |
| 2012                                  | 2014                               | 21.40  |   |   |                  |

\* Since it was reported to the actuary that the City's practice is to contribute the percent-of-payroll employer contribution rate shown in the actuarial valuation report, the annual required contributions shown in the Schedule of Employer Contributions are the actual contributions made by the City in the fiscal year.

\*\* After assumption, method, and/or benefit changes.

# Reflects blending of contribution rates due to mid-year benefit change.

## GASB STATEMENT NO. 25 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                      | June 30, 2012                   |
| Actuarial Cost Method               | Entry Age Normal                |
| Amortization Method                 | Level percent                   |
| Remaining Amortization Period       | 28 closed                       |
| Asset Valuation Method              | 5-year smoothed market          |
| Actuarial Assumption:               |                                 |
| Investment rate of return           | 8.00%                           |
| Projected salary increases*         | 3.5% - 9.5%                     |
| * Includes wage inflation at        | 3.50%                           |
| Post - Retirement Benefit Increases | Ad-hoc as provided by ordinance |

Membership of the plan consisted of the following at June 30, 2012, the date of the latest actuarial valuation:

|  |            |
|--|------------|
| Retirees and Beneficiaries receiving benefits                      | 310        |
| Terminated plan members entitled to but not yet receiving benefits | 30         |
| Active plan members  | <u>297</u> |
| Total  | 637        |

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**SECTION E**

OPERATION OF THE RETIREMENT SYSTEM

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## **BASIC FINANCIAL OBJECTIVE AND OPERATION OF THE RETIREMENT SYSTEM**

***Benefit Promises Made Which Must Be Paid For.*** A retirement program is an orderly means of handing out, keeping track of, and financing contingent pension promises to a group of employees. As each member of the retirement program acquires a unit of service credit they are, in effect, handed an “IOU” which reads: “The Employees Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire.”

The principal related financial question is: When shall the money required to cover the “IOU” be contributed? This year, when the benefit of the member’s service is received? Or, some future year when the “IOU” becomes a cash demand?

The Constitution of the State of Michigan is directed to the question:

“Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities.”

This Retirement System meets this constitutional requirement by having the following ***Financial Objective: To establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level*** from year-to-year and will not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contribution objective means that the contribution rate must be as least:

***Normal Cost*** (the current value of benefits likely to be paid on account of members’ service being rendered in the current year)

. . . plus . . .

***Interest on the Unfunded Actuarial Accrued Liability*** (the difference between the actuarial accrued liability and current System assets).

If contributions to the retirement program are less than the preceding amount, the difference, **plus investment earnings not realized thereon**, will have to be contributed at some later time, or, benefits will have to be reduced, to satisfy the fundamental fiscal equation under which all retirement programs must operate; that is:

$$B = C + I - E$$

**Benefit** payments to any group of members and their beneficiaries cannot exceed the sum of:

**Contributions** received on behalf of the group

. . . plus . . .

**Ivestment** earnings on plan assets

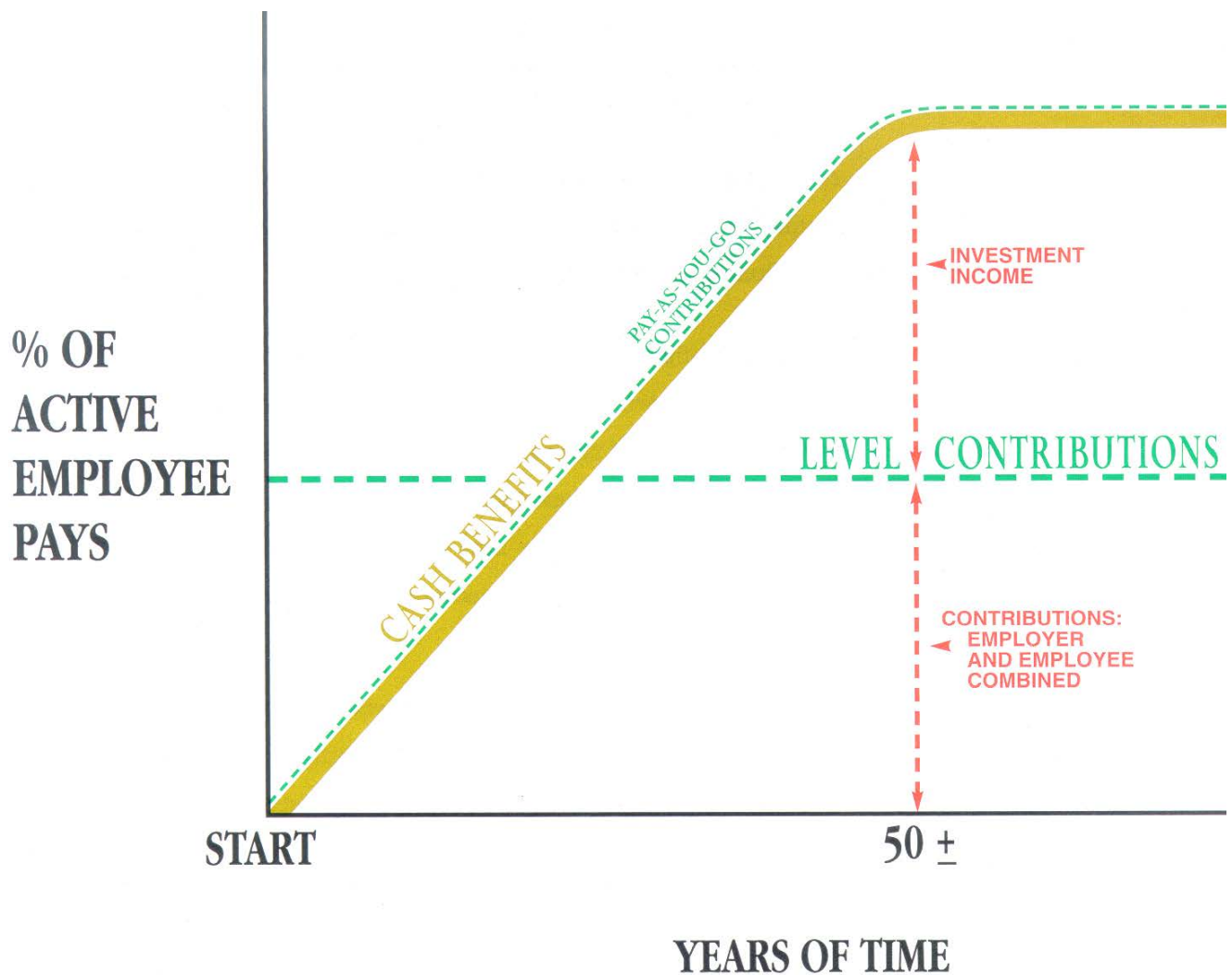
. . . minus . . .

**Expenses** incurred in operating the program.

There are retirement programs designed to defer the bulk of contributions far into the future. Lured by artificially low present contributions, the inevitable consequence of a relentlessly increasing contribution rate -- to a level which may be greatly in excess of the level percent-of-payroll rate -- is ignored. *This method of financing is prohibited in Michigan by the State Constitution.*

A by-product of a level percent-of-payroll contribution objective is the accumulation of invested assets for varying periods of time. Invested assets are a by-product of level percent-of-payroll contributions, not the objective. Investment income becomes the third and largest contributor to the retirement program, and the amount is directly related to the amount of contributions and investment performance.

***Computed Contribution Rate Needed To Finance Benefits.*** From a given schedule of benefits and from the data furnished, the actuary calculates the contribution rate ***by means of an actuarial valuation*** - the technique of assigning monetary values to the risks assumed in operating a retirement program.



**CASH BENEFITS LINE.** This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

**LEVEL CONTRIBUTION LINE.** Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

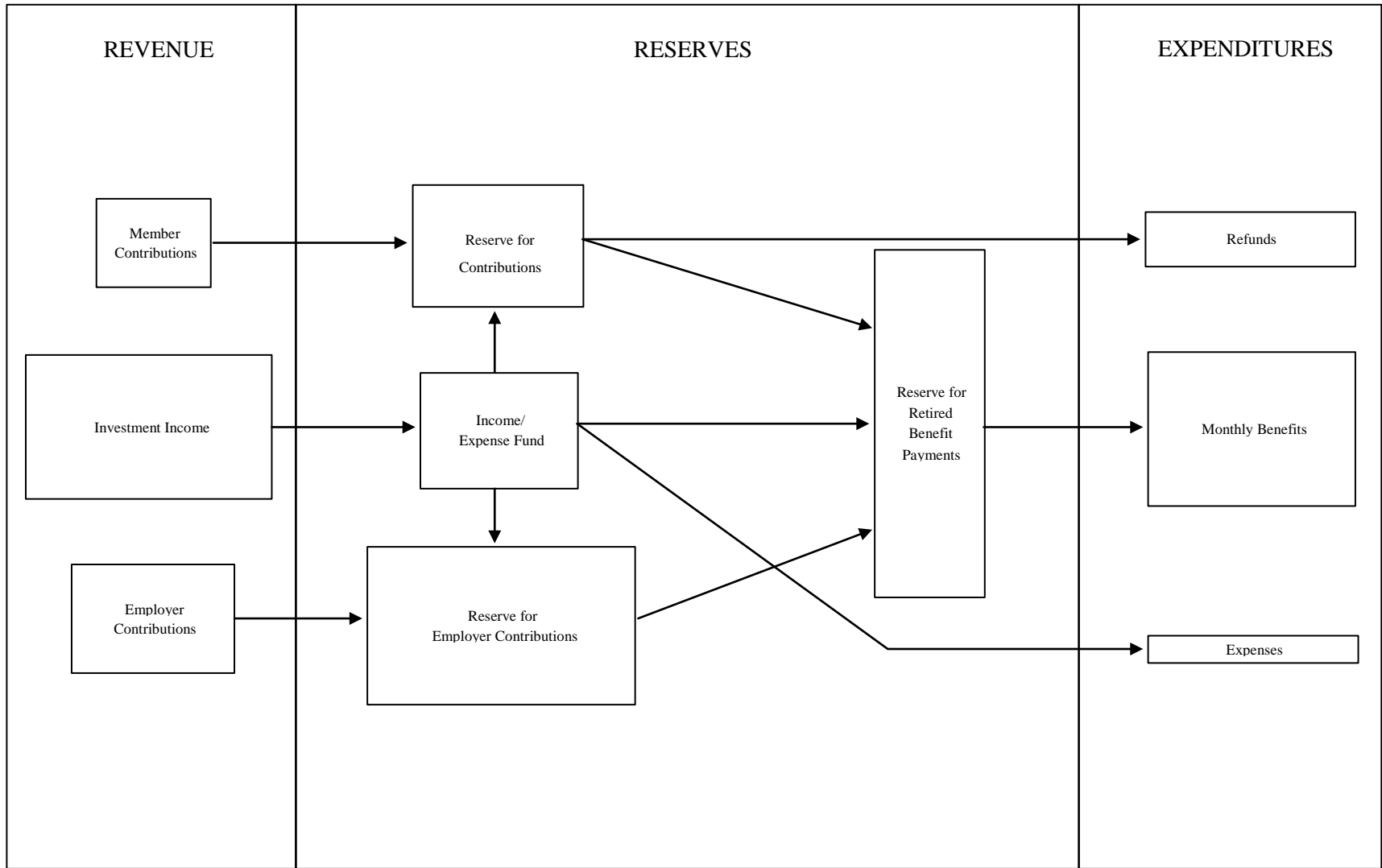
Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

## FLOW OF MONEY THROUGH THE RETIREMENT SYSTEM





## GLOSSARY

**Actuarial Accrued Liability** - The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.”

**Accrued Service** - The service credited under the plan which was rendered before the date of the actuarial valuation.

**Actuarial Assumptions** - Estimates of future plan 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 plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

**Actuarial Equivalent** - A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

**Actuarial Present Value** - The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

**Amortization** - Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

**Experience Gain (Loss)** - A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

**Normal Cost** - The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

## GLOSSARY

***Plan Termination Liability*** - The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a “going-concern” basis and is not normally determined in a routine actuarial valuation.

***Reserve Account*** - An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

***Unfunded Actuarial Accrued Liability*** - The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability.”

***Valuation Assets*** - The value of current plan assets recognized for valuation purposes. Generally based on book value plus a portion of unrealized appreciation or depreciation.

December 11, 2012

Ms. Lauri Siskind  
City of Southfield  
26000 Evergreen Road  
Southfield, Michigan 48076

Dear Lauri:

Enclosed are 30 copies of the report of the Forty-Seventh annual actuarial valuation as of June 30, 2012 for the City of Southfield Employees Retirement System.

This report provides contribution requirements and funded status results based on a measure of assets and liabilities on June 30, 2012.

Sincerely,



Randall J. Dziubek, ASA, EA, MAAA

RJD:bd  
Enclosures