

October 13, 2010

The Retirement Board  
City of Phoenix Employees' Retirement Plan  
Phoenix, Arizona

Dear Board Members:

***The purpose of the annual actuarial valuation*** of the City of Phoenix Employees' Retirement Plan as of June 30, 2010, is to:

- Compute the liabilities associated with benefits likely to be paid on behalf of current retired, active and vested inactive members of the Retirement Plan,
- Compare accrued assets with accrued liabilities to assess the funded condition of the Retirement Plan, and
- Compute the City's recommended contribution rate for the Fiscal Year beginning July 1, 2011.

***This valuation has been conducted*** in accordance with generally accepted actuarial principles and practices in compliance with the provisions of the City Charter. Data concerning Retirement Plan benefits, financial transactions and individual members, terminated members, retirees and beneficiaries was provided by your Retirement Program Administrator. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. The actuarial assumptions used in the valuation produce results which we believe are reasonable. This valuation has been prepared under the supervision of a Member of the American Academy of Actuaries who meets the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Denise M. Jones  
Senior Consultant



Sandra W. Rodwan  
Member, American Academy of Actuaries

***City of Phoenix  
Employees' Retirement Plan***

*Annual Actuarial Valuation as of June 30, 2010*

# ***Table of Contents***

## **Section One: Valuation Summary**

Valuation Summary.....1

## **Section Two: Actuarial Calculations – Funding**

Computed Contribution Rates.....3

Unfunded Actuarial Accrued Liability.....4

## **Section Three: Retirement Plan Benefit Provisions**

Benefit Provision Summary .....9

## **Section Four: Actuarial Assumptions and Methods**

Actuarial Assumptions .....11

Actuarial Methods .....15

## **Section Five: Valuation Data**

Asset Summary.....16

Participant Summary .....19

## **Section Six: Accounting Disclosures**

Information for GASB Statement No. 25 .....25





***Section One:***  
***Valuation Summary***



### **Purpose of Valuation**

The purpose of the annual actuarial valuation of the City of Phoenix Employees' Retirement Plan, as of June 30, 2010, is to:

- ❖ Compute the liabilities associated with benefits likely to be paid on behalf of current retired, active and vested inactive members of the Retirement Plan,
- ❖ Compare accrued assets with accrued liabilities to assess the funded condition of the Retirement Plan, and
- ❖ Compute the City's recommended contribution rate for the Fiscal Year beginning July 1, 2011.

### **Liabilities and Funded Condition of Retirement Plan**

Accrued liabilities of the Retirement Plan as of June 30, 2010 were computed to be \$2,697,287,660. The funding value of assets was \$1,868,093,113. The ratio of the funding value of assets to accrued liabilities was 69.3%.

### **Funding Value of Assets**

A smoothed market value of assets was used for the June 30, 2010 valuation. This method, which is unchanged from last year, spreads the difference between the actual and expected investment return over four years.

### **City's Computed City Contribution Rate**

The City's normal cost contribution rate was computed to be 8.92% of member payroll. Unfunded actuarial accrued liability was amortized over 20 years, producing an amortization payment of 9.26% of member payroll. The net contribution for FY 2011/2012 was therefore computed to be 18.18% of member payroll.

### **Retirement Plan Experience**

The overall experience of the Retirement Plan during the year ended June 30, 2010 was less favorable than expected experience based on long-term assumptions. The recognized rate of return on the smoothed funding value of assets was less than the long term assumed rate and was the primary source of the unfavorable experience. The smoothed funding value of assets includes the phase-in of experience losses/gains over a four year period.

**Benefit Provision Changes**

There were no changes in benefit provisions during the year.

**Assumption and Method Changes**

There were no changes in assumptions or methods during the year.

**Participant Data**

|                            | <u>6/30/2010</u> | <u>6/30/2009</u> |
|----------------------------|------------------|------------------|
| Active Members             | 8,896            | 9,317            |
| Active Member Payroll      | \$550,174,824    | \$539,468,175    |
| Retirees and Beneficiaries | 4,931*           | 4,669            |
| Annual Pensions            | \$138,272,993    | \$126,219,565    |

*\*Also included in the valuation were 98 alternate payees with annual benefits totaling \$1,096,954.*

**Financial Data**

|                               | <u>6/30/2010</u> | <u>6/30/2009</u> |
|-------------------------------|------------------|------------------|
| Market Value of Assets        | \$1,535,173,679  | \$1,409,558,244  |
| Smoothed Valuation Assets     | \$1,868,636,402  | \$1,896,271,626  |
| Pension Equalization Reserve  | 543,289          | 1,123,297        |
| Net Smoothed Valuation Assets | \$1,868,093,113  | \$1,895,148,329  |

**Conclusion**

The Retirement Plan is funding benefits as they accrue in accordance with a sound level percent of payroll funding objective.



***Section Two:***

***Actuarial Calculations –  
Funding***



**Computed Contribution Rates for Fiscal Year Beginning July 1, 2011**

The contribution rates shown below are expressed as percents of active member payroll.

The normal cost can be viewed as the long-term ongoing cost of the Retirement Plan.

Unfunded actuarial accrued liability was amortized over 20 years as a level percent of payroll. The 20 year open period was adopted by the Board effective for the fiscal year beginning July 1, 2003.

The City’s net computed contribution rate for FY 2011/2012 is 18.18% of active member payroll.

**Contribution Recommendation:**

|  | <u>Percent of Payroll</u> |
|--|---------------------------|
| Normal Cost                                  |                           |
| Service Pensions                             | 10.51%                    |
| Pre-Retirement Death                         | 0.52                      |
| Disability                                   | 0.79                      |
| Withdrawal                                   | <u>2.10</u>               |
| Total Normal Cost                            | 13.92                     |
| Unfunded Actuarial Accrued Liability         | 9.26                      |
| Total Computed Contribution                  | 23.18                     |
| Member portion                               | 5.00                      |
| <b>City’s Net Computed Contribution Rate</b> | <b>18.18%</b>             |
| City’s Computed Dollar Contribution          | \$106,483,325             |



**Unfunded Actuarial Accrued Liability**

|                                      | <b><u>June 30, 2010</u></b> | <b><u>June 30, 2009</u></b> |
|--------------------------------------|-----------------------------|-----------------------------|
| Actuarial accrued liability          | \$2,697,287,660             | \$2,518,094,494             |
| Assets allocated to funding          | <u>1,868,093,113</u>        | <u>1,895,148,329</u>        |
| Unfunded actuarial accrued liability | \$829,194,547               | \$622,946,165               |

**History of Recommended City Contributions**

| <b>Valuation Date:<br/>June 30</b> | <b>Fiscal<br/>Year</b> | <b>Computed City<br/>Dollar<br/>Contributions</b> | <b>Percent of<br/>Payroll</b> |
|------------------------------------|------------------------|---|-------------------------------|
| 1980*                              | 81/82                  | \$8,022,758                                       | 8.86%                         |
| 1985                               | 86/87                  | 12,366,739  | 8.25                          |
| 1990                               | 91/92                  | 19,582,694  | 8.69                          |
| 1995                               | 96/97                  | 23,208,480  | 8.30                          |
| 1996                               | 97/98                  | 30,123,972  | 9.86                          |
| 1997                               | 98/99                  | 29,185,895  | 9.14                          |
| 1998                               | 99/00                  | 26,802,219  | 7.67                          |
| 1999                               | 00/01                  | 22,329,387  | 6.13                          |
| 2000                               | 01/02                  | 28,294,889  | 7.24                          |
| 2001                               | 02/03                  | 27,819,507  | 6.86                          |
| 2002                               | 03/04                  | 39,563,747  | 9.17#                         |
| 2003                               | 04/05                  | 44,274,921  | 9.97                          |
| 2004                               | 05/06                  | 53,093,606  | 11.20                         |
| 2005                               | 06/07                  | 58,151,324  | 11.66                         |
| 2006(b)                            | 07/08                  | 63,244,698  | 11.94                         |
| 2006(a)                            | 07/08                  | 64,198,136  | 12.12                         |
| 2007                               | 08/09                  | 67,152,987  | 11.78                         |
| 2008(c)                            | 09/10                  | 75,910,874  | 12.58                         |
| 2008(d)                            | 09/10                  | 86,591,498  | 14.35                         |
| 2009                               | 10/11                  | 92,145,262  | 16.04                         |
| <b>2010</b>                        | <b>11/12</b>           | <b>106,483,325</b>                                | <b>18.18</b>                  |

\*Valuation date 12/31

#Adoption of a 20 year amortization period for unfunded actuarial accrued liability decreased the computed City contribution rate to 9.17% from 10.22% based on 11 year amortization.

- (a) After changes in assumptions.
- (b) Before changes in assumptions.
- (c) Before method changes.
- (d) After method changes.

**Note:** Results prior to 2000 are based on reports provided by previous actuarial firm.

**History of Assets and Accrued Liabilities  
(\$+000)**

| <b>Valuation Date<br/>June 30</b> | <b>Valuation Assets</b> | <b>Actuarial Accrued Liabilities</b> | <b>Funded Ratio</b> | <b>Unfunded Actuarial Accrued Liabilities</b> |
|-----------------------------------|-------------------------|--------------------------------------|---------------------|---|
| 1975*                             | \$51,025                | \$69,625                             | 73.3%               | \$18,600                                      |
| 1980*                             | 101,832                 | 120,262                              | 84.7                | 18,430  |
| 1985                              | 207,015                 | 215,926                              | 95.9                | 8,911   |
| 1990                              | 399,413                 | 399,089                              | 100.1               | (324)   |
| 1995(a)                           | 663,593                 | 652,266                              | 101.7               | (11,327)                                      |
| 1996(a)                           | 742,076                 | 758,107                              | 97.9                | 16,031  |
| 1997                              | 840,539                 | 824,604                              | 101.9               | (15,935)                                      |
| 1998                              | 984,501                 | 907,471                              | 108.5               | (77,030)                                      |
| 1999                              | 1,117,497               | 989,371                              | 113.0               | (128,126)                                     |
| 2000(a)                           | 1,219,892               | 1,199,871                            | 101.7               | (20,021)                                      |
| 2001                              | 1,291,338               | 1,259,564                            | 102.5               | (31,774)                                      |
| 2002                              | 1,273,731               | 1,390,273                            | 91.6                | 116,542                                       |
| 2003                              | 1,330,584               | 1,504,125                            | 88.5                | 173,541                                       |
| 2004                              | 1,417,774               | 1,684,795                            | 84.2                | 267,021                                       |
| 2005                              | 1,511,553               | 1,795,514                            | 84.2                | 283,961                                       |
| 2006(b)                           | 1,626,741               | 1,951,295                            | 83.4                | 324,554                                       |
| 2006(a)                           | 1,626,741               | 2,000,346                            | 81.3                | 373,605                                       |
| 2007                              | 1,816,508               | 2,166,119                            | 83.9                | 349,611                                       |
| 2008(c)                           | 1,908,414               | 2,338,826                            | 81.6                | 430,412                                       |
| 2008(d)                           | 1,908,414               | 2,413,365                            | 79.1                | 504,951                                       |
| 2009                              | 1,895,148               | 2,518,094                            | 75.3                | 622,946                                       |
| <b>2010</b>                       | <b>1,868,093</b>        | <b>2,697,288</b>                     | <b>69.3</b>         | <b>829,195</b>                                |

\*Valuation date 12/30

- (a) After changes in benefit provisions and/or actuarial assumption and valuation methods.
- (b) Before changes in benefit provisions and/or actuarial assumption and valuation methods.
- (c) Before method changes.
- (d) After method changes.

**Note:** Results prior to 2000 are based on reports provided by previous actuarial firm.

**Experience Gain/Loss**

|  | <b>Year Ended<br/>June 30, 2010</b> |
|--|-------------------------------------|
| (1) UAAL* at Start of Year                           | \$622,946,165                       |
| (2) Normal Cost                                      | 78,731,389                          |
| (3) Contributions                                    | 116,481,797                         |
| (4) Assumed Investment Income<br>on (1), (2) and (3) | 48,227,793                          |
| (5) Expected UAAL Before Changes                     | 633,423,550                         |
| (6) Effect of Method Changes                         | -                                   |
| (7) Effect of Benefit Changes                        | -                                   |
| (8) Expected UAAL After Changes                      | 633,423,550                         |
| (9) Actual UAAL                                      | 829,194,547                         |
| (10) Gain(Loss) (8) – (9)                            | (195,770,997)                       |
| (11) Percent of AAL** at Start of Year               | (7.8)%                              |

\*Unfunded Actuarial Accrued Liability

\*\*Actuarial Accrued Liability

**Actuarial Balance Sheet June 30, 2010****Actuarial Assets**

|   |                    |                               |
|---|--------------------|-------------------------------|
| Funding value of Plan assets                |                    |                               |
| Market value from Plan financial statements | \$1,535,173,679    |                               |
| Pension Equalization Reserve                | (543,289)          |                               |
| Smoothed funding value adjustment           | <u>333,462,723</u> |                               |
| Funding value of assets                     |                    | \$1,868,093,113               |
| Prospective assets (computed value)         |                    |                               |
| For normal costs                            | 663,689,306        |                               |
| For unfunded actuarial accrued liability    | <u>829,194,547</u> |                               |
| Total prospective assets                    |                    | <u>1,492,883,853</u>          |
| Total Actuarial Assets                      |                    | <u><u>\$3,360,976,966</u></u> |

**Actuarial Present Values (Liability)**

|  |                    |                               |
|--|--------------------|-------------------------------|
| Pensions in payment status                   |                    | \$1,311,929,414*              |
| Vested terminated members                    |                    | 34,342,808                    |
| Present active members                       |                    |                               |
| Allocated to service prior to valuation date | \$1,351,015,438    |                               |
| Allocated to service after valuation date    | <u>663,689,306</u> |                               |
| Total  |                    | <u>2,014,704,744</u>          |
| Total Actuarial Present Values (Liability)   |                    | <u><u>\$3,360,976,966</u></u> |

\*Includes \$88,791 attributable to pensions being paid to minors.

## **Comments, Conclusion and Certification**

**Comment 1:** The aggregate experience of the Retirement Plan during the year ended June 30, 2010 was less favorable than expected based upon the long-term assumptions. The primary source of unfavorable experience was the recognized rate of investment return based on the smoothed funding value of assets which was less than assumed. Note that the effect of the negative returns on the market value of assets over the last several years will be phased into the funding value of assets over the next 3 years. In the absence of significant overall favorable experience in investment return and other assumptions, the City's computed contribution rates would be likely to increase over the short term.

**Comment 2:** Unfunded actuarial accrued liability was amortized over an open period of 20 years, as adopted by the Board for contributions beginning with the 2003/2004 fiscal year.

**Conclusion:** The Retirement Plan is funding benefits as they accrue in accordance with a sound level percent of payroll funding objective.

**Certification:** This valuation has been conducted in accordance with generally accepted actuarial principles and practices in compliance with the provisions of the City Charter. Data concerning Retirement Plan benefits, financial transactions and individual members, terminated members, retirees and beneficiaries was provided by your Retirement Program Administrator. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. The actuarial assumptions used in this valuation are reasonably related to the past experience of the Plan and represent reasonable expectations of long-term future experience under the Plan.

**Statement of Actuarial Opinion:** I, Sandra W. Rodwan, am President of Rodwan Consulting Company. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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***Section Three:***

***Retirement Plan  
Benefit Provisions***



## **Benefit Provision Summary**

### ***Voluntary Retirement (no reduction for age)***

*Eligibility:*

Sum of age and credited service equals 80 or more, age 60 with 10 or more years of credited service or age 62 with 5 or more years of credited service.

*Annual Benefit:*

Unused sick leave service multiplied by 2% of final average compensation (FAC) plus 2% of FAC times credited service up to 32.5 years plus 1% of FAC times service in excess of 32.5 years plus ½% of FAC times service in excess of 35.5 years. Minimum monthly pension is \$250 (\$500 if member has 15 or more years of service).

*Final Average Compensation (FAC)*

Average of annual compensation for the period of 3 consecutive years producing the highest average and contained within the last 10 years preceding retirement.

### ***Deferred Retirement***

*Eligibility:*

Termination of City employment prior to age 62 with 5 or more years of credited service.

*Annual Benefit:*

Accrued regular retirement amount based on credited services, unused sick leave service, and FAC at time of termination, payable beginning at age 62.

### ***Duty Disability Retirement***

*Eligibility:*

Total and permanent disability incurred in line of duty with the City.

*Annual Benefit:*

Computed in the same manner as the regular retirement amount based on FAC and credited service at time of disability retirement. Minimum is 15% of FAC. Maximum during worker's compensation period is difference between final compensation and annualized workers compensation. At expiration of worker's compensation period, amount is recomputed to include years during which workers compensation was paid.

### ***Non-Duty Disability***

*Eligibility:*

Total and permanent disability after 10 or more years of credited service.

*Annual Benefit:*

Computed in the same manner as regular retirement amount based on FAC and credited service at time of disability retirement.

***Duty Death Before Retirement***

*Eligibility:*

Death in line of duty with the City and compensable under worker's compensation.

*Annual Benefit:*

To the spouse: Joint and 100% survivor actuarial equivalent of accrued regular retirement amount based on FAC and credited service and unused sick leave service at time of death. Minimum of 10 years of service is credited. To the children of a deceased member with 10 or more years of credited service: each child shall receive a monthly pension of \$200 until adoption, marriage, death or attainment of age 18.

***Non-Duty Death Before Retirement***

*Eligibility:*

10 or more years of credited service.

*Annual Benefit:*

Same as Duty Death Before Retirement.

***Pension Equalization Program:*** On January 1 of each year, persons in receipt of a pension for at least 36 months receive a percentage increase based on the lesser of A) and B):

A) Phoenix area Consumer Price Index; or

B) The amount the balance in the Pension Equalization can fully fund.

The increase, if available, is payable beginning with the April 1 payment each year, retroactive to January 1 of the same year.

***Member Contributions***

5% of pay

***City Contributions***

Actuarially determined amounts which, together with member contributions, are sufficient to cover both (i) normal costs of the plan, and (ii) financing of unfunded accrued actuarial costs over a selected period of future years.





*Section Four:*

***Actuarial Assumptions  
And Methods***



**Actuarial Assumptions**

**Economic Assumptions**

- (i) Interest Rate 8.0% (net of expenses)
  
- (ii) Salary Increases
  - Across-the-Board 5.0%
  - Merit and Longevity Age-related rates

**Sample Annual Rates of Salary Increase**

| <b>Age</b> | <b>Base (Inflation)</b> | <b>Competition/ Productivity</b> | <b>Merit and Longevity</b> | <b>Total</b> |
|------------|-------------------------|----------------------------------|----------------------------|--------------|
| 20         | 4.5%                    | 0.5%                             | 3.8%                       | 8.8%         |
| 25         | 4.5%                    | 0.5%                             | 3.1%                       | 8.1%         |
| 30         | 4.5%                    | 0.5%                             | 2.7%                       | 7.7%         |
| 35         | 4.5%                    | 0.5%                             | 2.4%                       | 7.4%         |
| 40         | 4.5%                    | 0.5%                             | 2.2%                       | 7.2%         |
| 45         | 4.5%                    | 0.5%                             | 1.6%                       | 6.6%         |
| 50         | 4.5%                    | 0.5%                             | 1.1%                       | 6.1%         |
| 55         | 4.5%                    | 0.5%                             | 0.6%                       | 5.6%         |
| 60         | 4.5%                    | 0.5%                             | 0.1%                       | 5.1%         |
| 65         | 4.5%                    | 0.5%                             | 0.0%                       | 5.0%         |

**Demographic Assumptions**

(i) Mortality

RP 2000 Mortality Table Combined  
Healthy

| Sample<br>Ages | Value of<br>\$1 Annually for Life |         | Future Life<br>Expectancy (Years) |       |
|----------------|-----------------------------------|---------|-----------------------------------|-------|
|                | Men                               | Women   | Men                               | Women |
| 50             | \$11.34                           | \$11.61 | 30.8                              | 33.6  |
| 55             | 10.72                             | 11.10   | 26.2                              | 29.0  |
| 60             | 9.92                              | 10.37   | 21.8                              | 24.4  |
| 65             | 8.96                              | 9.53    | 17.6                              | 20.2  |
| 70             | 7.86                              | 8.55    | 13.9                              | 16.3  |
| 75             | 6.65                              | 7.44    | 10.6                              | 12.8  |
| 80             | 5.37                              | 6.34    | 7.8                               | 9.7   |

These rates were first used for the June 30, 2006 valuation.

(ii) Rates of Disability

Age-related rates

| Sample<br>Ages | Percent of Active<br>Members Becoming<br>Disabled Within Next Year |
|----------------|--|
| 20             | 0.03   |
| 25             | 0.03   |
| 30             | 0.04   |
| 35             | 0.05   |
| 40             | 0.12   |
| 45             | 0.20   |
| 50             | 0.40   |
| 55             | 0.80   |
| 60             | 1.00   |

These rates were first used for the June 30, 2006 valuation.

(iii) Termination of Employment

Service related rates for first five years of employment. Age-related rates for after first five years of employment

| <b>Sample Ages</b> | <b>Years of Service</b> | <b>% of Active Members Separating Within Next Year</b> |
|--------------------|-------------------------|--|
| ALL                | 0                       | 20.0%  |
|                    | 1                       | 18.0   |
|                    | 2                       | 12.0   |
|                    | 3                       | 9.0  |
|                    | 4                       | 8.0  |
| 25                 | 5 & Over                | 7.0  |
| 30                 |                         | 6.0  |
| 35                 |                         | 5.0  |
| 40                 |                         | 3.0  |
| 45                 |                         | 3.0  |
| 50                 |                         | 2.5  |
| 55                 |                         | 2.5  |
| 60                 |                         | 2.5  |
| 65                 |                         | 2.5  |

These rates were first used for the June 30, 2006 valuation.

(iv) Retirement Rates

Age-related rates

**Percent of Active Members Retiring Within Year  
Following Attainment of Indicated Retirement Age**

| <b>Retirement<br/>Age</b> | <b>Percent<br/>Retiring</b> |
|---------------------------|-----------------------------|
| 50                        | 25                          |
| 51                        | 25                          |
| 52                        | 25                          |
| 53                        | 25                          |
| 54                        | 25                          |
| 55                        | 35                          |
| 56                        | 25                          |
| 57                        | 25                          |
| 58                        | 25                          |
| 59                        | 25                          |
| 60                        | 25                          |
| 61                        | 20                          |
| 62                        | 35                          |
| 63                        | 30                          |
| 64                        | 25                          |
| 65                        | 45                          |
| 66                        | 30                          |
| 67                        | 30                          |
| 68                        | 30                          |
| 69                        | 30                          |
| 70                        | 100                         |

These rates were first used for the June 30, 2006 valuation.

Active members were assumed to be eligible for an unreduced pension when the sum of age and credited service equals 80 or more, after attaining age 60 with 10 or more years of service, or after attaining age 62 with 5 or more years of service.

**Compensatory service credits and lump sum payments** for unused vacation and compensatory time were assumed to increase the present value of normal retirement benefits by 9.0%.

**Percent married.** Ninety percent of active members were assumed to be married. Spouses of males were assumed to be 3 years younger; spouses of females were assumed to be 3 years older.

### **Actuarial Method Used for the Valuation**

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

- ❖ The annual normal costs for each individual active member, payable from date of hire to date of retirement, are 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.

**Financing of Unfunded Actuarial Accrued Liability.** The actuarial accrued liability was amortized as a level percent-of-payroll over 20 years and added to the computed normal cost.



***Section Five:***  
***Valuation Data***



**Asset Summary****Statement of Assets**

As of June 30, 2010, the market value was reported to be \$1,535,173,679.

**Reconciliation of the Book Value of Assets**

|   |                  |
|---|------------------|
| a. Book Value as of June 30, 2009         | \$1,595,595,529  |
| b. Income                                 |                  |
| (i) Member Contributions                  | 30,240,299       |
| (ii) Employer Contributions               | 86,241,498       |
| (iii) Investment Income (Net of Expenses) | 63,067,369       |
| (iv) Inter-System Transfers               | <u>4,617,956</u> |
| (v) Total Income                          | 184,167,122      |
| c. Disbursements to Members               |                  |
| (i) Pensions                              | 133,521,643      |
| (ii) Refunds of Member Contributions      | 2,876,987        |
| (iii) Inter-System Transfers              | 1,699,964        |
| (iv) Administrative expense               | <u>0</u>         |
| (v) Total Disbursements to Members        | 138,098,594      |
| d. Book Value as of June 30, 2010         | \$1,641,664,057  |

**Investment Allocation**

The reported asset allocation based on market value was as follows:

|   |                    |
|---|--------------------|
| a. Cash and Short Term                              | \$111,628,624      |
| b. Fixed Income                                     | 458,859,322        |
| c. Equity   | 913,417,053        |
| d. Real Estate                                      | <u>135,755,384</u> |
| e. Total Market Value of Assets as of June 30, 2010 | 1,619,660,383      |
| f. Less: Accounts Payable                           | <u>84,486,704</u>  |
| g. Market Value of Assets as of June 30, 2010       | \$1,535,173,679    |



### Funding Value of Assets

As of June 30, 2010, the market value of assets was reported to be \$1,535,173,679 and the net funding value of assets (smoothed market value) was \$1,868,093,113 (the gross funding value before deducting the Pension Equalization Reserve was \$1,868,636,402). The funding value spreads the difference between the actual and expected 8% investment return over a four year period.

| <b>Funding Value of Assets</b>   | <b>6/30/2009</b> | <b>6/30/2010</b> |
|--|------------------|------------------|
| A. Gross Funding Value Beginning of Year   | \$1,925,244,776  | \$1,896,271,626  |
| B. Market Value End of Year  | 1,409,558,244    | 1,535,173,679    |
| C. Market Value Beginning of Year  | 1,810,669,165    | 1,409,558,244    |
| D. Non-investment Net Cash Flow  | (25,245,802)     | (16,998,841)     |
| E. Investment Income   |                  |                  |
| E1. Market Total B-C-D   | (375,865,119)    | 142,614,276      |
| E2. Amount for Immediate Recognition   | 153,009,750      | 151,021,776      |
| E3. Amount for Phased-In Recognition: E1-E2  | (528,874,869)    | (8,407,500)      |
| F. Phased-In Recognition of Investment Income  |                  |                  |
| F1. Current Year: 0.25 x E3  | (132,218,717)    | (2,101,875)      |
| F2. First Prior Year   | (62,719,664)     | (132,218,717)    |
| F3. Second Prior Year  | 35,382,096       | (62,719,664)     |
| F4. Third Prior Year   | 2,819,187        | 35,382,096       |
| F5. Total Phased-In Amount   | (156,737,098)    | (161,658,160)    |
| H. Initial Adjustment*   | n/a              | n/a              |
| I. Gross Funding Value End of Year: A+D+E2+F5+H  | 1,896,271,626    | 1,868,636,402    |
| J. Pension Equalization Reserve  | 1,123,297        | 543,289          |
| K. Net Funding Value End of Year: I-J  | 1,895,148,329    | 1,868,093,113    |
| L. Difference Between Market and Gross Funding Value   | \$(486,713,382)  | \$(333,462,723)  |
| <i>*25% of the difference between beginning of year market value and funding value for FY 02/03. Last installment was 6/30/2006.</i> |                  |                  |

**Reserve Balances – (Book Value)**

| <b>Reserves (Book Value)</b> | <b><u>June 30, 2010</u></b> | <b><u>June 30, 2009</u></b> |
|------------------------------|-----------------------------|-----------------------------|
| Employees’ Savings Fund      | \$445,141,268               | \$446,039,323               |
| Pension Accumulation Fund    | (32,003,737)                | 37,339,351                  |
| Pension Reserve Fund         | 1,227,983,237               | 1,111,093,558               |
| Pension Equalization Fund    | <u>543,289</u>              | <u>1,123,297</u>            |
| Retirement Plan Totals       | \$1,641,664,057             | \$1,595,595,529             |

## Participant Summary

### Retirees and Beneficiaries Included in the Valuation

There were 4,931 retirees and beneficiaries included in the valuation, with annual pensions totaling \$138,272,993.

#### Retirees and Beneficiaries - June 30, 2010

| Attained Age  | Age & Service |                      | Disability and Death-In-Service |                    | Totals       |                      |
|---------------|---------------|----------------------|---------------------------------|--------------------|--------------|----------------------|
|               | No.           | Annual Pensions      | No.                             | Annual Pensions    | No.          | Annual Pensions      |
| Under 20      | 1             | \$5,944              | 12                              | \$30,899           | 13           | \$36,843             |
| 20-24         | 1             | 12,551               |                                 |                    | 1            | 12,551               |
| 25-29         | 1             | 12,552               | 1                               | 18,427             | 2            | 30,979               |
| 30-34         | 3             | 20,950               |                                 |                    | 3            | 20,950               |
| 35-39         | 5             | 46,292               |                                 |                    | 5            | 46,292               |
| 40-44         | 4             | 64,196               | 5                               | 77,494             | 9            | 141,690              |
| 45-49         | 6             | 142,946              | 22                              | 335,605            | 28           | 478,551              |
| 50-54         | 162           | 7,655,482            | 46                              | 781,573            | 208          | 8,437,055            |
| 55-59         | 482           | 21,241,425           | 76                              | 1,260,509          | 558          | 22,501,934           |
| 60-64         | 936           | 33,331,107           | 68                              | 1,313,015          | 1004         | 34,644,122           |
| 65-69         | 893           | 25,500,715           | 49                              | 694,435            | 942          | 26,195,150           |
| 70-74         | 714           | 17,522,107           | 43                              | 646,328            | 757          | 18,168,435           |
| 75-79         | 517           | 11,579,629           | 32                              | 482,599            | 549          | 12,062,228           |
| 80-84         | 434           | 8,735,800            | 12                              | 175,421            | 446          | 8,911,221            |
| 85-89         | 263           | 4,645,736            | 15                              | 159,740            | 278          | 4,805,476            |
| 90-94         | 92            | 1,313,446            | 7                               | 68,960             | 99           | 1,382,406            |
| 95-99         | 27            | 366,414              | 1                               | 14,363             | 28           | 380,777              |
| Over 100      | 1             | 16,333               |                                 |                    | 1            | 16,333               |
| <b>Totals</b> | <b>4,542</b>  | <b>\$132,213,625</b> | <b>389</b>                      | <b>\$6,059,368</b> | <b>4,931</b> | <b>\$138,272,993</b> |

Also included in the valuation were 98 alternate payees with annual benefits totaling \$1,096,954.

## Pensions Being Paid

| Valuation Date<br>June 30 | No.          | Annual Pension Payroll | Average Pension | Discounted Value of Pensions |                |
|---------------------------|--------------|------------------------|-----------------|------------------------------|----------------|
|                           |              |                        |                 | Total                        | Average        |
| 1970                      | 340          | \$ 473,361             | \$ 1,392        | \$ 5,037,596                 | \$14,816       |
| 1975                      | 659          | 1,677,417              | 2,545           | 16,531,074                   | 25,085         |
| 1980                      | 1,081        | 3,945,764              | 3,650           | 38,592,913                   | 35,701         |
| 1985                      | 1,595        | 8,628,828              | 5,410           | 78,069,444                   | 48,946         |
| 1990                      | 2,153        | 18,450,025             | 8,569           | 165,804,947                  | 77,011         |
| 1991                      | 2,253        | 20,161,971             | 8,949           | 179,021,242                  | 79,459         |
| 1992                      | 2,344        | 22,555,546             | 9,627           | 203,512,080                  | 86,823         |
| 1993                      | 2,441        | 24,578,907             | 10,069          | 213,689,712                  | 87,542         |
| 1994                      | 2,517        | 26,631,668             | 10,581          | 231,490,008                  | 91,971         |
| 1995                      | 2,603        | 29,283,567             | 11,250          | 253,370,388                  | 97,338         |
| 1996                      | 2,678        | 32,202,770             | 12,025          | 278,600,868                  | 104,033        |
| 1997                      | 2,777        | 35,873,253             | 12,918          | 312,952,740                  | 112,695        |
| 1998                      | 2,881        | 40,123,813             | 13,927          | 351,548,940                  | 122,023        |
| 1999                      | 2,998        | 44,211,408             | 14,747          | 389,427,924                  | 129,896        |
| 2000                      | 3,171        | 52,881,149             | 16,676          | 477,415,704                  | 150,557        |
| 2001                      | 3,328        | 60,274,419             | 18,111          | 549,592,898                  | 165,142        |
| 2002                      | 3,457        | 66,370,134             | 19,199          | 605,227,344                  | 175,073        |
| 2003                      | 3,592        | 72,221,170             | 20,106          | 659,633,613                  | 183,640        |
| 2004                      | 3,743        | 79,318,123             | 21,191          | 737,683,525                  | 197,083        |
| 2005                      | 3,907        | 85,717,799             | 21,940          | 798,413,514                  | 204,355        |
| 2006                      | 4,069        | 94,797,214             | 23,297          | 892,122,786                  | 219,249        |
| 2007                      | 4,217        | 102,356,444            | 24,272          | 964,006,083                  | 228,600        |
| 2008                      | 4,417        | 113,433,365            | 25,681          | 1,066,886,398                | 241,536        |
| 2009                      | 4,669        | 126,219,565            | 27,034          | 1,193,391,096                | 255,599        |
| <b>2010</b>               | <b>4,931</b> | <b>138,272,993</b>     | <b>28,042</b>   | <b>1,311,929,414</b>         | <b>266,057</b> |

*Note: 1970-1975 Valuations are as of December 31*

## Schedule of Retirees and Beneficiaries Added To and Removed From Rolls

| <u>Year Ended</u> | <u>Added</u> |                                   |                    | <u>Removed</u> |                               | <u>Rolls End of Year</u> |                               | <u>Average Annual Pensions</u> | <u>% Increase In Annual Pensions</u> |
|-------------------|--------------|-----------------------------------|--------------------|----------------|-------------------------------|--------------------------|-------------------------------|--------------------------------|--------------------------------------|
|                   | <u>No.</u>   | <u>Annual Pensions New (+000)</u> | <u>PEP* (+000)</u> | <u>No.</u>     | <u>Annual Pensions (+000)</u> | <u>No.</u>               | <u>Annual Pensions (+000)</u> |                                |                                      |
| <b>2010</b>       | <b>432</b>   | <b>\$15,139</b>                   | <b>\$120</b>       | <b>170</b>     | <b>\$3,206</b>                | <b>4,931</b>             | <b>\$138,273</b>              | <b>\$28,042</b>                | <b>9.5%</b>                          |
| 2009              | 426          | 14,195                            | 1,594              | 174            | 3,002                         | 4,669                    | 126,220                       | 27,034                         | 11.3                                 |
| 2008              | 348          | 10,935                            | 2,874              | 148            | 2,732                         | 4,417                    | 113,433                       | 25,681                         | 10.8                                 |
| 2007              | 290          | 8,205                             | 1,519              | 142            | 2,165                         | 4,217                    | 102,356                       | 24,272                         | 8.0                                  |
| 2006              | 309          | 9,247                             | 1,976              | 147            | 2,144                         | 4,069                    | 94,797                        | 23,297                         | 9.0                                  |
| 2005              | 314          | 7,795                             | 1,159              | 150            | 2,554                         | 3,907                    | 85,718                        | 21,940                         | 8.1                                  |
| 2004              | 296          | 7,610                             | 1,727              | 145            | 2,122                         | 3,743                    | 79,318                        | 21,191                         | 9.1                                  |
| 2003              | 259          | 6,720                             | 1,066              | 124            | 1,935                         | 3,592                    | 72,221                        | 20,106                         | 8.8                                  |
| 2002              | 264          | 5,999                             | 1,786              | 135            | 1,689                         | 3,457                    | 66,370                        | 19,199                         | 10.1                                 |
| 2001              | 240          | 6,665                             | 1,559              | 83             | 831                           | 3,328                    | 60,274                        | 18,111                         | 14.0                                 |
| 2000              | 276          | 8,661                             | 1,056              | 102            | 1,047                         | 3,171                    | 52,881                        | 16,671                         | 13.1                                 |
| 1999              | 194          | 4,173                             | 719                | 77             | 805                           | 2,998                    | 44,211                        | 14,747                         | 10.2                                 |
| 1998              | 220          | 3,985                             | 1,461              | 116            | 1,205                         | 2,881                    | 40,124                        | 13,927                         | 11.8                                 |
| 1997              | 213          | 3,753                             | 1,180              | 114            | 1,262                         | 2,777                    | 35,873                        | 12,918                         | 11.4                                 |
| 1996              | 204          | 2,754                             | 1,266              | 129            | 1,100                         | 2,678                    | 32,203                        | 12,025                         | 10.0                                 |
| 1995              | 188          | 2,569                             | 913                | 102            | 830                           | 2,603                    | 29,284                        | 11,250                         | 10.0                                 |
| 1994              | 167          | 2,265                             | 628                | 91             | 841                           | 2,517                    | 26,632                        | 10,581                         | 8.4                                  |
| 1993              | 183          | 2,265                             | 525                | 86             | 788                           | 2,441                    | 24,579                        | 10,069                         | 9.0                                  |
| 1992              | 183          | 2,580                             | 367                | 92             | 554                           | 2,344                    | 22,556                        | 9,627                          | 11.9                                 |
| 1991              | 165          | 2,159                             |                    | 65             | 447                           | 2,253                    | 20,162                        | 8,949                          | 9.3                                  |

*\*Pension Equalization Increase*

**Retirees and Beneficiaries - June 30, 2010**  
**Type of Pensions**

| <b>Type of Pensions</b>               | <b>No.</b>   | <b>Annual Pensions</b> |
|---------------------------------------|--------------|------------------------|
| <b>Age and Service Pensions</b>       |              |                        |
| Straight Life                         | 1,492        | \$44,749,539           |
| 100% Joint and Survivor               | 1,208        | 37,713,895             |
| 50% Joint and Survivor                | 200          | 6,535,933              |
| 10 Years Certain and Life             | 200          | 5,797,041              |
| 100% Joint and Survivor with Pop-Up   | 507          | 15,731,690             |
| 50% Joint and Survivor with Pop-Up    | 352          | 11,825,437             |
| <b>Total Age and Service Pensions</b> | <b>3,959</b> | <b>122,353,535</b>     |
| <b>Disability Pensions</b>            |              |                        |
| Straight Life                         | 48           | 763,160                |
| 100% Joint and Survivor               | 61           | 948,458                |
| 50% Joint and Survivor                | 6            | 92,307                 |
| 10 Years Certain and Life             | 18           | 259,723                |
| 100% Joint and Survivor with Pop-Up   | 38           | 481,130                |
| 50% Joint and Survivor with Pop-Up    | 6            | 137,306                |
| <b>Duty Disability Pensions</b>       |              |                        |
| Straight Life                         | 13           | 165,873                |
| 100% Joint and Survivor               | 21           | 211,082                |
| 50% Joint and Survivor                | 2            | 34,082                 |
| 10 Years Certain and Life             | 5            | 26,687                 |
| 100% Joint and Survivor with Pop-Up   | 18           | 234,370                |
| 50% Joint and Survivor with Pop-Up    | 2            | 29,656                 |
| <b>Total Disability Pensions</b>      | <b>238</b>   | <b>3,383,834</b>       |
| <b>Death-In-Service</b>               |              |                        |
| Spouses - Death-In-Service            | 134          | 2,567,842              |
| Children - Death-In-Service           | 12           | 30,899                 |
| <b>Total Death-In-Service</b>         | <b>146</b>   | <b>2,598,741</b>       |
| <b>Beneficiaries</b>                  |              |                        |
| Age & Service Beneficiaries           | 583          | 9,860,090              |
| Disability Beneficiaries              | 5            | 76,793                 |
| <b>Total Beneficiaries</b>            | <b>588</b>   | <b>9,936,883</b>       |
| <b>Total Pensions Paid</b>            | <b>4,931</b> | <b>\$138,272,993</b>   |

## Active Member Summary

## Active Members, June 30, 2010 - Age and Service Distribution

| Age           | Service      |              |              |              |              |            |            | Total        |
|---------------|--------------|--------------|--------------|--------------|--------------|------------|------------|--------------|
|               | 0-4          | 5-9          | 10-14        | 15-19        | 20-24        | 25-29      | Over 30    |              |
| 20-24         | 181          | 12           |              |              |              |            |            | 193          |
| 25-29         | 375          | 159          | 10           |              |              |            |            | 544          |
| 30-34         | 356          | 331          | 149          | 3            |              |            |            | 839          |
| 35-39         | 328          | 368          | 319          | 93           | 8            |            |            | 1,116        |
| 40-44         | 277          | 318          | 311          | 203          | 134          | 21         |            | 1,264        |
| 45-49         | 279          | 291          | 310          | 238          | 312          | 191        | 17         | 1,638        |
| 50-54         | 188          | 252          | 254          | 215          | 299          | 257        | 72         | 1,537        |
| 55-59         | 116          | 187          | 222          | 200          | 227          | 102        | 74         | 1,128        |
| 60-64         | 63           | 97           | 107          | 82           | 89           | 53         | 42         | 533          |
| Over<br>65    | 21           | 21           | 22           | 15           | 13           | 9          | 3          | 104          |
| <b>Totals</b> | <b>2,184</b> | <b>2,036</b> | <b>1,704</b> | <b>1,049</b> | <b>1,082</b> | <b>633</b> | <b>208</b> | <b>8,896</b> |

**Active Members – Three-Year Summary**

|                        | <b>2010</b>   | <b>2009</b>   | <b>2008</b>   |
|------------------------|---------------|---------------|---------------|
| Active Members         | 8,896         | 9,317         | 9,624         |
| Valuation Payroll      | \$550,174,824 | \$539,468,175 | \$566,512,007 |
| Average Compensation   | \$61,845      | \$57,901      | \$58,865      |
| Average Age (yrs.)     | 45.7          | 45.3          | 44.8          |
| Average Service (yrs.) | 12.4          | 11.9          | 11.5          |

**Inactive Vested Members - June 30, 2010**

| <b>Attained Age</b> | <b>No.</b> | <b>Estimated Annual Benefit</b> |
|---------------------|------------|---------------------------------|
| 25-29               | 8          | \$41,195                        |
| 30-34               | 31         | 207,434                         |
| 35-39               | 97         | 870,256                         |
| 40-44               | 128        | 1,348,619                       |
| 45-49               | 101        | 1,470,131                       |
| 50-54               | 150        | 1,863,505                       |
| 55-59               | 128        | 1,579,106                       |
| 60-64               | 64         | 636,375                         |
| <b>Totals</b>       | <b>707</b> | <b>\$8,016,621</b>              |





***Section Six:***  
***Accounting Disclosures***



**GASB Statement No. 25 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, 2010                   |
| Actuarial Cost Method:         | Individual Entry Age            |
| Amortization method:           | Level percent of payroll, open  |
| Remaining amortization period: | 20 years                        |
| Asset valuation method:        | Four-year smoothed market value |
| Actuarial assumptions:         |                                 |
| Investment rate of return      | 8.0%                            |
| Projected salary increases*    | 5.0%-8.8%                       |
| * Includes inflation at        | 4.5%                            |

Membership data as of June 30, 2010 is indicated in Section Five of this report.

## Actuarial Accrued Liability as of June 30, 2010:

## Actuarial Accrued Liability

|                                      |                   |
|--------------------------------------|-------------------|
| Active members                       | \$1,351,015,438   |
| Retirees and beneficiaries           | 1,311,929,414     |
| Vested terminated members            | <u>34,342,808</u> |
| Total Actuarial Accrued Liability    | 2,697,287,660     |
| Actuarial Value of Assets            | 1,868,093,113     |
| Unfunded Actuarial Accrued Liability | \$829,194,547     |

**Analysis of Funding Progress**  
**(\$ amounts +000)**

| Valuation<br>Date<br>June 30 | (1)<br>Funding<br>Value of<br>Assets | (2)<br>Actuarial<br>Accrued<br>Liability | (3)<br>Percent<br>Funded<br>(1)/(2) | (4)<br>Unfunded<br>AAL<br>(2)-(1) | (5)<br>Annual<br>Covered<br>Payroll | (6)<br>UAAL<br>As a % Of<br>Covered<br>Payroll<br>(4)/(5) |
|------------------------------|--------------------------------------|--|-------------------------------------|-----------------------------------|-------------------------------------|---|
| 1997                         | \$ 840,539                           | \$ 888,968                               | 94.6%                               | \$ 48,429                         | \$ 294,678                          | 16.4%   |
| 1998                         | 984,501                              | 973,048                                  | 101.2                               | (11,453)                          | 322,475                             | -   |
| 1999                         | 1,117,497                            | 1,044,425                                | 107.0                               | (73,072)                          | 336,153                             | -   |
| 2000                         | 1,219,892                            | 1,199,871                                | 101.7                               | (20,021)                          | 360,654                             | -   |
| 2001                         | 1,291,338                            | 1,259,564                                | 102.5                               | (31,774)                          | 376,913                             |   |
| 2002                         | 1,273,731                            | 1,390,273                                | 91.6                                | 116,542                           | 404,414                             | 28.8  |
| 2003                         | 1,330,584                            | 1,504,125                                | 88.5                                | 173,541                           | 416,472                             | 41.7  |
| 2004                         | 1,417,774                            | 1,684,795                                | 84.2                                | 267,021                           | 445,348                             | 60.0  |
| 2005                         | 1,511,553                            | 1,795,514                                | 84.2                                | 283,962                           | 467,998                             | 60.7  |
| 2006                         | 1,626,741                            | 2,000,346                                | 81.3                                | 373,605                           | 497,105                             | 75.2  |
| 2007                         | 1,816,508                            | 2,166,119                                | 83.9                                | 349,611                           | 535,079                             | 65.3  |
| 2008                         | 1,908,414                            | 2,413,365                                | 79.1                                | 504,951                           | 566,512                             | 89.1  |
| 2009                         | 1,895,148                            | 2,518,094                                | 75.3                                | 622,946                           | 539,468                             | 115.5   |
| <b>2010</b>                  | <b>1,868,093</b>                     | <b>2,697,288</b>                         | <b>69.3</b>                         | <b>829,195</b>                    | <b>550,175</b>                      | <b>150.7</b>  |

### Schedule of Employer Contributions

| Valuation Date<br>June 30 | Fiscal Year<br>Ended June 30 | Annual Required<br>Contribution | Actual Annual<br>Contribution |
|---------------------------|------------------------------|---------------------------------|-------------------------------|
| 1990                      | 1992                         | \$19,582,694                    | 100%                          |
| 1991                      | 1993                         | 21,023,444                      | 100                           |
| 1992                      | 1994                         | 21,495,978                      | 100                           |
| 1993                      | 1995                         | 20,607,423                      | 100                           |
| 1994                      | 1996                         | 21,218,199                      | 100                           |
| 1995                      | 1997                         | 23,208,480                      | 100                           |
| 1996                      | 1998                         | 30,123,972                      | 100                           |
| 1997                      | 1999                         | 29,185,895                      | 100                           |
| 1998                      | 2000                         | 26,802,219                      | 100                           |
| 1999                      | 2001                         | 22,329,387                      | 100                           |
| 2000                      | 2002                         | 28,294,889                      | 100                           |
| 2001                      | 2003                         | 27,819,507                      | 100                           |
| 2002                      | 2004                         | 39,563,747                      | 100                           |
| 2003                      | 2005                         | 43,374,921*                     | 100                           |
| 2004                      | 2006                         | 52,973,606*                     | 100                           |
| 2005                      | 2007                         | 58,151,324                      | 100                           |
| 2006                      | 2008                         | 64,198,136                      | 100                           |
| 2007                      | 2009                         | 66,382,987*                     | 100                           |
| 2008                      | 2010                         | 86,241,498*                     | 100                           |
| 2009                      | 2011                         | 92,145,262                      |                               |
| <b>2010</b>               | <b>2012</b>                  | <b>106,483,325</b>              |                               |

*\*Excluding amount allocated to Excess Benefit Arrangement.*