## REPORT ON

THE EIGHTY-FOURTH VALUATION OF THE EMPLOYEES' RETIREMENT SYSTEM OF THE CITY OF PROVIDENCE AS OF JUNE 30, 2011

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January 19, 2012

Retirement Board
Employees' Retirement System of the
City of Providence
City Hall
Providence, Rhode Island 02903

Dear Board Members:
This report presents the results of the eighty-fourth actuarial valuation of the Employees' Retirement System of the City of Providence. This report was prepared as of June 30, 2011 and develops the appropriation required by the City for the fiscal year beginning July 1, 2012.

The Table of Contents, which immediately follows, outlines the material contained in the report.
This report was prepared under the supervision of Philip Bonanno, an Associate of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries and a Fellow of the Conference of Consulting Actuaries, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,


Philip Bonanno, ASA, MAAA, EA, FCA
Director, Consulting Actuary

## RobertP. Lessard

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Consultant

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## REPORT ON THE EIGHTY-FOURTH VALUATION OF THE EMPLOYEES' RETIREMENT SYSTEM OF THE <br> CITY OF PROVIDENCE <br> AS OF JUNE 30, 2011 <br> SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below:

| Valuation Date | June 30, 2010 |  | June 30, 2011 |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of active members |  |  |  |  |
| Vested |  | 1,849 |  | 1,879 |
| Nonvested |  | 1,149 |  | 1,108 |
| Total |  | 2,998 |  | 2,987 |
| Annual base salaries of active members | \$ | 137,355,155 | \$ | 135,473,706 |
| Average base salary of active members | \$ | 45,816 | \$ | 45,354 |
| Number of retirees and beneficiaries |  | 2,929 |  | 2,998 |
| Annual retirement allowances | \$ | 78,988,781 | \$ | 83,117,181 |
| Average retirement allowance | \$ | 26,968 | \$ | 27,724 |
| Number of non-active members with contributions |  | 432 |  | 435 |
| Accumulated member contributions | \$ | 10,826,649 | \$ | 11,560,322 |
| Market value of plan assets (accrual basis) | \$ | 368,448,768 | \$ | 416,275,009 |
| Assets for valuation purposes | \$ | 427,890,901 | \$ | 422,839,189 |
| Unfunded accrued liability | \$ | 828,484,533 | \$ | 900,984,913 |
| Contribution rates required |  |  |  |  |
| Class A |  | 21.98\% |  | 24.44\% |
| Class B Fire |  | 90.63\% |  | 96.61\% |
| Class B Police |  | 64.44\% |  | 72.50\% |

2. Comments on the valuation results as of June 30, 2011 are given in Section IV and the appropriation payable by the City during the fiscal period beginning July 1, 2012 is set out in Section V.
3. The valuation was based on the assumptions as outlined in Schedule B. Changes in assumptions since the previous valuation are as follows:

- Post-service retirement mortality: Due to recent updates within Actuarial Standard of Practice No. 35 (ASOP 35) of the Actuarial Standards Board (ASB), we have revised the mortality rates for service retirees and beneficiaries to reflect an assumption about mortality improvement after the valuation date. The mortality assumptions are the RP2000 Mortality Tables for males and females with static projection to 2021 using Scale AA.
- Discount rate assumption: The assumed discount rate was decreased from $8.50 \%$ to 8.25\%.
- Salary scale: The assumed future increases in salary were lowered for all future years.
- Longevity assumption: The assumed longevity pay percentages were decreased by 1\% for all Class A employees due to recent contract negotiations.

4. Schedule D of this report presents a summary of the main provisions of the act governing the System, as interpreted in preparing the actuarial valuation. The provisions were updated to reflect negotiated changes for future members of the Retirement System. None of the changes shown had any impact on this year's valuation.

The valuation reflected the following with respect to annual cost-of-living adjustments (COLAs):

| Group | COLA | Number of <br> (a) <br> Class A |
| :--- | :--- | ---: |
|  |  |  |
| (i) $\quad$ Reciripients prior to 12/19/1991 |  |  |

Total of Police 649
(c) Class B - Fire*
(i) Retired prior to $1 / 1 / 1990 \quad 5 \%$ compounded 176
(ii) Retired between $1 / 1 / 1990$ and $12 / 18 / 1991$
$6 \%$ compounded 60
(iii) Retired between 12/19/1991 and 6/30/1995 $5 \%$ compounded 99
(iv) Retired on or after 7/1/1995 3\% compounded 308
(v) Special award

5\% compounded
18
Total of Fire 661
(d) Total Number of Class A and Class B retirees and beneficiaries 2,968**

* There are 40 Class B employees who retired as Non-Union participants and are included in the counts above but each has a simple 3\% COLA on the first $\$ 12,000$ of the annual benefit.
** Excludes elected officials and 30 Class A and B employees who retired prior to June 30, 2011 but were not processed on the June 30, 2011 payroll.

There is a three-year deferral of the initial COLA for current active members when they retire.

## SECTION II - EMPLOYEE DATA

1. Employee data were furnished by the City Controller.
2. Tables 1 and 2 of Schedule $E$ show the number and average annual salaries of active members, while the remaining tables of Schedule E show the number and annual retirement allowances of retirees and beneficiaries as of June 30, 2011.

## SECTION III - ASSETS

1. The amount of the assets taken into account in the valuation was obtained from information submitted by the City Controller.
2. The market value of the assets of the System as of June 30, 2011 on a "cash basis" was $\$ 361,837,203$. This amount was converted this to an "accrual basis" value of $\$ 416,275,009$ by adding $\$ 54,437,806$, the discounted value of the City's $\$ 58,928,925$ contribution appropriated for the July 1, 2011 to June 30, 2012 fiscal year and assumed deposited on June 30, 2012.
3. The amount of assets used for valuation purposes of $\$ 422,839,189$ was determined on an "accrual basis" by the use of a five-year moving average of market values. Schedule C outlines the calculation of this value.

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## SECTION IV - COMMENTS ON VALUATION

1. Schedule A of this report presents the results of the valuation and shows the present and prospective assets and liabilities of the retirement system of June 30, 2011. Actuarial accrued liabilities consist of $\$ 357,451,711$, which equals the actuarial accrued value of prospective benefits of active members; plus $\$ 954,812,069$, which equals the present value of obligations to retired members and their beneficiaries; plus $\$ 11,560,322$, which equals the value of contributions of non-active members remaining in the fund. These liabilities amount to $\$ 1,323,824,102$, which is met by the City and members through annual contributions. Against these prospective liabilities, the system has present assets of \$422,839,189, leaving $\$ 900,984,913$ as the unfunded accrued liability.
2. Section V discusses the portion of the total prospective City obligation that is recommended for current payment.
3. Schedule G of the report discusses experience gain/(loss) in the last year. The System's actual experience was worse than expected, resulting in a loss of $\$ 12,722,427$. Actuarial assets did not earn the expected rate of return, resulting in a loss of $\$ 18,609,736$. It was offset by gains from liability, equal to $\$ 5,887,309$. The changes in plan assumptions noted in Section I increased the unfunded liability by $\$ 34,990,503$. For more detail on gain/(loss), please see Schedule G.
4. The actuarial value of assets exceeds the market value by about $\$ 6.6$ million, due to the deferral of past losses under the asset smoothing method.

## SECTION V - APPROPRIATION PAYABLE BY CITY

1. Schedule A gives the basis for determining the appropriation payable by the City during the fiscal period beginning July 1, 2012. In accordance with the law governing the operation of the retirement system, the recommended contribution rates are $24.44 \%$ for Class A members, $96.61 \%$ for Class B Fire and $72.50 \%$ for Class B Police. These rates are based on amortizing the unfunded accrued liability as of June 30, 2011 on a level percentage-of-payroll basis over a 28 -year period. If these rates are applied to the annual compensation of active members in this actuarial valuation, increased by $\$ 471,661$ to amortize the remaining deferred contribution as of June 30, 1996 over a 30-year period, and adjusted to a monthly basis, contributions payable by the City for the fiscal year beginning July 1, 2012 are as shown below:

| Group |  | Amount |
| :---: | :---: | ---: |
| Class A: |  |  |
| General | $\$$ | $7,670,527$ |
| School |  | $7,284,644$ |
| School Crossing Guards | 862,955 |  |
| Water |  | $2,771,376$ |
| Workforce Development (JTPA) | 345,815 |  |
| Fire Civilians |  | 222,779 |
| Police Civilians | $\$$ | 872,042 |
| Total Class A |  | $20,030,138$ |
| Class B: | $\$$ | $23,816,081$ |
| Fire |  | $20,936,902$ |
| Police | $\$$ | $44,752,983$ |
| Total Class B | $\$$ | $64,783,121$ |
| Grand Total |  |  |

2. The assets and liabilities in the valuation do not take the elected officials' pensions into account. Therefore, in addition, the City should contribute an amount sufficient to provide for the payment of the special pensions to elected officials on a pay-as-you-go basis. Any deficiency that arises on account of elected officials whereby the contribution paid for a fiscal year is not sufficient to cover the special pensions paid that year to such retired members should be met by a special contribution by the City.

## SECTION VI - ACCOUNTING INFORMATION

Based on our interpretation of Statement 25 of the Governmental Accounting Standards Board, the results of the June 30, 2010 and June 30, 2011 actuarial valuations are shown below:

|  | June 30, 2010 |  | June 30, 2011 |  |
| :---: | :---: | :---: | :---: | :---: |
| 1. Normal cost for employees | \$ | 10,604,240 | \$ | 8,659,588 |
| 2. Normal cost for employers | \$ | 9,489,420 | \$ | 11,511,985 |
| 3. Actuarial liability for active members | \$ | 366,866,155 | \$ | 357,451,711 |
| 4. Actuarial liability for retired members | \$ | 889,509,279 | \$ | 966,372,391 |
| 5. Total actuarial liability | \$ | 1,256,375,434 | \$ | 1,323,824,102 |
| 6. System assets | \$ | 427,890,901 | \$ | 422,839,189 |
| 7. Unfunded actuarial accrued liability | \$ | 828,484,533 | \$ | 900,984,913 |
| 8. Ratio of assets to actuarial liability |  | 34.06\% |  | 31.94\% |
| 9. Investment return assumption |  | 8.50\% |  | 8.25\% |
| 10. Rate of salary increase |  | graded\%* |  | graded\%* |

* See Schedule B

SCHEDULE OF EMPLOYER CONTRIBUTIONS (dollar amounts in thousands)

| Year Ended <br> June 30 | Annual Required <br> Contribution | Percentage <br> Contribution |
| :---: | :---: | :---: |
| 1997 | $\$ 21,089$ | $93.58 \%$ |
| 1998 | $\$ 35,701$ | $57.52 \%$ |
| 1999 | $\$ 37,445$ | $56.15 \%$ |
| 2000 | $\$ 37,415$ | $60.00 \%$ |
| 2001 | $\$ 38,899$ | $60.60 \%$ |
| 2002 | $\$ 42,442$ | $64.18 \%$ |
| 2003 | $\$ 42,008$ | $80.25 \%$ |
| 2004 | $\$ 46,321$ | $85.99 \%$ |
| 2005 | $\$ 49,329$ | $92.15 \%$ |
| 2006 | $\$ 51,454$ | $96.22 \%$ |
| 2007 | $\$ 50,584$ | $100.20 \%$ |
| 2008 | $\$ 54,200$ | $100.00 \%$ |
| 2009 | $\$ 48,509$ | $99.80 \%$ |
| 2010 | $\$ 50,299$ | $97.66 \%$ |
| 2011 | $\$ 56,380$ | $100.00 \%$ |
| 2012 | $\$ 64,783$ |  |

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SCHEDULE OF FUNDING PROGRESS
(dollar amounts in thousands)

| Year Ended June 30 | Actuarial Value of Assets <br> (a) | Actuarial <br> Accrued <br> Liability <br> (AAL) <br> (b) | $\begin{gathered} \text { Unfunded } \\ \text { AAL } \\ \text { (UAAL) } \\ \text { (b-a) } \\ \hline \hline \end{gathered}$ | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll ((b-a)/c) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1994 | \$286,956 | \$500,119 | \$213,163 | 57.38\% | \$84,176 | 253.23\% |
| 1995 | \$293,454 | \$460,567 | \$167,113 | 63.72\% | \$88,335 | 189.18\% |
| 1996 | \$287,320 | \$699,265 | \$411,945 | 41.09\% | \$84,178 | 489.38\% |
| 1997 | \$288,800 | \$732,373 | \$443,573 | 39.43\% | \$88,959 | 498.63\% |
| 1998 | \$315,000 | \$732,775 | \$417,775 | 42.99\% | \$99,182 | 421.22\% |
| 1999 | \$325,576 | \$746,264 | \$420,688 | 43.63\% | \$106,717 | 394.21\% |
| 2000 | \$341,817 | \$798,292 | \$456,475 | 42.82\% | \$114,164 | 399.84\% |
| 2001 | \$341,986 | \$821,363 | \$479,377 | 41.64\% | \$116,493 | 411.51\% |
| 2002 | \$340,550 | \$867,457 | \$526,907 | 39.26\% | \$114,265 | 461.13\% |
| 2003 | \$334,929 | \$899,336 | \$564,407 | 37.24\% | \$115,015 | 490.72\% |
| 2004 | \$372,128 | \$1,025,345 | \$653,217 | 36.29\% | \$115,548 | 565.32\% |
| 2005 | \$376,690 | \$993,029 | \$616,339 | 37.93\% | \$118,825 | 518.70\% |
| 2006 | \$393,768 | \$1,052,805 | \$659,036 | 37.40\% | \$126,458 | 521.15\% |
| 2007 | \$426,055 | \$1,079,017 | \$652,962 | 39.49\% | \$132,719 | 491.99\% |
| 2008 | \$449,464 | \$1,165,183 | \$715,719 | 38.57\% | \$133,008 | 538.10\% |
| 2009 | \$405,217 | \$1,209,981 | \$804,763 | 33.49\% | \$135,516 | 593.85\% |
| 2010 | \$427,891 | \$1,256,375 | \$828,485 | 34.06\% | \$137,355 | 603.17\% |
| 2011 | \$422,839 | \$1,323,824 | \$900,985 | 31.94\% | \$135,474 | 665.06\% |

Note that the 2011 AAL reflects the changes in assumptions noted in Section I.

## ANNUAL PENSION COST AND NET PENSION OBLIGATION FOR

 FISCAL YEARS BEGINNING JULY 1, 2010 AND JULY 1, 2011The pension cost and net pension obligation as required by Statement 27 of the Governmental Accounting Standards Board are:

Fiscal year beginning July 1, 2010

Net Pension Obligation (NPO) at June 30, 2010
\$131,767,105
a. Annual Required Contribution

56,380,436
b. Interest on NPO
c. Amortization of NPO

11,200,204
$(7,898,997)$

Annual Pension Cost 59,681,643

Contributions Paid (not discounted)

Increase in NPO
3,301,207

NPO of June 30, 2011
\$135,068,312

Fiscal year beginning July 1, 2011

Net Pension Obligation (NPO) at June 30, $2011 \quad \$ 135,068,312$
d. Annual Required Contribution 58,928,925
e. Interest on NPO

11,143,136
f. Amortization of NPO
(8,277,242)

Annual Pension Cost 61,794,819

Expected Contributions to be Paid (not discounted)
$(58,928,925)$

Increase in NPO
2,865,894

Expected NPO of June 30, 2012
\$137,934,207

## SCHEDULE A

RESULTS OF THE VALUATION AS OF JUNE 30, 2011
(Excluding Elected Officer Funds)

|  | Class A |  | Class B |  |  |  |  |  | Grand Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Fire |  | Police |  | Total |  |  |
| 1. Actuarial Accrued Liabilities <br> (a) Actuarial accrued value of all future benefits payable to active members | \$ | 151,728,278 | \$ | 100,340,561 | \$ | 105,382,872 | \$ | 205,723,433 | \$ | 357,451,711 |
| (b) Actuarial accrued value of benefits payable to retirees and beneficiaries including benefits payable on death |  | 237,125,275 |  | 403,263,559 |  | 314,423,235 |  | 717,686,794 |  | 954,812,069 |
| (c) Employee contributions of non-active members |  | 10,076,095 |  | 620,575 |  | 863,652 |  | 1,484,227 |  | 11,560,322 |
| (d) Total accrued actuarial liabilities | \$ | 398,929,648 | \$ | 504,224,695 | \$ | 420,669,759 | \$ | 924,894,454 |  | ,323,824,102 |
| 2. Assets of the System | \$ | 127,421,074 | \$ | 161,053,089 | \$ | 134,365,026 | \$ | 295,418,115 | \$ | 422,839,189 |
| 3. Unfunded Value of Total Prospective Contributions by the City (1(d) minus 2 ) | \$ | 271,508,574 | \$ | 343,171,606 | \$ | 286,304,733 | \$ | 629,476,339 | \$ | 900,984,913 |
| 4. Amortization (28 years) | \$ | 15,910,931 | \$ | 20,110,524 | \$ | 16,778,014 | \$ | 36,888,538 | \$ | 52,799,469 |

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|  |  | Class A |  | Class B |  |  |  |  |  | Grand Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Fire |  | Police |  | Total |  |  |
| 5. | Total Individual Entry Age Normal Cost | \$ | 9,136,033 | \$ | 4,638,871 | \$ | 5,106,036 | \$ | 9,744,907 | \$ | 18,880,940 |
| 6. | Employee Normal Cost | \$ | 5,608,123 | \$ | 1,502,710 | \$ | 1,548,755 | \$ | 3,051,465 | \$ | 8,659,588 |
| 7. | Net City Normal Cost with Interest | \$ | 3,973,373 | \$ | 3,532,159 | \$ | 4,006,453 | \$ | 7,538,612 | \$ | 11,511,985 |
| 8. | Net City Normal Cost without Interest as a Percent of Pay |  | 4.31\% |  | 12.72\% |  | 12.32\% |  | 12.50\% |  | 7.54\% |
| 9. | Amortization of 1995 Deferral | \$ | 145,834 | \$ | 173,398 | \$ | 152,435 | \$ | 325,833 | \$ | 471,667 |
| 10. | Total City Appropriation (4 plus 7 plus 9)* | \$ | 20,030,138 | \$ | 23,816,081 | \$ | 20,936,902 | \$ | 44,752,983 | \$ | 64,783,121 |
|  | Total Contribution Rate for Fiscal Year Beginning July 1, 2011 |  | 24.44\% |  | 96.61\% |  | 72.50\% |  | 83.60\% |  | 47.82\% |
| 12. | Payroll | \$ | 81,940,753 | \$ | 24,652,547 | \$ | 28,880,406 | \$ | 53,532,953 | \$ | 135,473,706 |

* Assumed payments throughout 2013


## SCHEDULE B

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 8.25\% per annum, compounded annually, effective July 1, 2011 for General Funds and School Teacher Funds. In the prior valuation, the interest rate assumption was $8.50 \%$.

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal and deferred retirement, disability, death and service retirement among members in active service are as follows:

## CLASS A

| Age | Retirement | Disability |  |
| :---: | :---: | :---: | :---: |
|  |  | Ordinary | Accidental |
| 20 |  | .00025 | .00010 |
| 25 |  | .00030 | .00015 |
| 30 |  | .00030 | .00015 |
| 35 |  | .00050 | .00025 |
| 40 |  | .00080 | .00040 |
| 45 | .0671 | .00125 | .00060 |
| 50 | .0925 | .00255 | .00090 |
| 55 | .0859 | .00370 | .00130 |
| 59 | .1138 | .00415 | .00185 |
| 60 | .1229 | .00625 | .00210 |
| 64 | .1741 | .00680 | .00310 |
| 65 | .2500 | .00680 | .00340 |
| 70 | .2500 |  |  |
| 75 | 1.0000 |  |  |


|  | Withdrawal <br> Agd Deferred <br> Retirement |  | Ordinary and Accidental <br> Death |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Men | Women |  |
| 20 | .1413 | .000231 | .000136 |  |
| 25 | .1206 | .000304 | .000154 |  |
| 30 | .0644 | .000400 | .000214 |  |
| 35 | .0473 | .000696 | .000377 |  |
| 40 | .0389 | .000912 | .000514 |  |
| 45 | .0272 | .001146 | .000801 |  |
| 50 | .0174 | .001460 | .001169 |  |
| 54 | .0101 | .002091 | .001963 |  |
| 55 |  | .002422 | .002295 |  |
| 60 |  | .004808 | .004550 |  |
| 65 |  | .009473 | .008736 |  |
| 70 |  | .016167 | .015069 |  |

## CLASS B

| Age | Withdrawal <br> and Deferred <br> Disability | Disability |  | Ordinary and Accidental <br> Death |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ordinary | Accidental | Men | Women |
| 20 | .0258 | .0001 | .0008 | .000231 | .000136 |
| 25 | .0183 | .0001 | .0011 | .000304 | .000154 |
| 30 | .0104 | .0002 | .0017 | .000400 | .000214 |
| 35 | .0046 | .0025 | .0023 | .000696 | .000377 |
| 40 | .0029 | .0004 | .0034 | .000912 | .000514 |
| 45 | .0024 | .0007 | .0060 | .001146 | .000801 |
| 50 |  | .0011 | .0104 | .001460 | .001169 |
| 55 |  |  | .0149 | .002422 | .002295 |
| 59 |  | .0194 | .004237 | .003997 |  |


| Age | Retirement |
| :---: | :---: |
| 40 | .07403 |
| 45 | .07599 |
| 50 | .08004 |
| 55 | .08860 |
| 56 | .09124 |
| 57 | .09439 |
| 58 | .09788 |
| 59 | .10238 |
| 60 | 1.00000 |

SALARY INCREASES NOT INCLUDING LONGEVITY: 0\% for the next two years and 3.50\% thereafter. The prior assumption was $4.25 \%$ for the next 2 years and $4.50 \%$ thereafter.

MEMBER CONTRIBUTIONS: Assumed that 100\% of members elect to cease making contributions after 25 years of service.

## LONGEVITY TABLES:

## CLASS A:

FOR EMPLOYEES HIRED ON OR PRIOR TO OCTOBER 23, 1999:

YEARS OF SERVICE
5 years but less than 10 years
10 years but less than 15 years
15 years but less than 20 years
20 years or more

PERCENTAGE PERCENTAGE AMOUNT $\underline{\text { AMOUNT }}$

4\%
5\%
6\%
$7 \%$
FOR EMPLOYEES HIRED AFTER OCTOBER 23, 1999:

| YEARS OF SERVICE |  | PRIOR |
| :---: | :---: | :---: |
|  | PERCENTAGE | PERCENTAGE |
|  | AMOUNT | AMOUNT |
| 7 years but less than 12 years | 3\% | 4\% |
| 12 years but less than 17 years | 4\% | 5\% |
| 17 years but less than 20 years | 5\% | 6\% |
| 20 years or more | 6\% | 7\% |

## CLASS B:

## FIRE:

FOR EMPLOYEES HIRED ON OR PRIOR TO JUNE 30, 1996:

PERCENTAGE
AMOUNT

## 8\%

9\%
10\%
11\%

FOR EMPLOYEES HIRED AFTER JUNE 30, 1996:

PERCENTAGE
AMOUNT
7\%
8\%
9\%
10\%

## POLICE:

FOR EMPLOYEES HIRED ON OR PRIOR TO JUNE 30, 1998:
PERCENTAGE
YEARS OF SERVICE
0 year but less than 6 years
6 years but less than 11 years
11 years but less than 16 years
16 years but less than 21 years
21 years or more

AMOUNT
0\%
8\%
9\%
10\%
11\%

FOR EMPLOYEES HIRED AFTER JUNE 30, 1998 :

YEARS OF SERVICE
0 year but less than 6 years
6 years but less than 11 years
11 years but less than 16 years
16 years but less than 21 years
21 years or more

## PERCENTAGE

 AMOUNT0\%
7\%
8\%
9\%
$10 \%$

DEATHS AFTER RETIREMENT: For service retirements, it is based on the RP-2000 Mortality Tables for males and females with static projection to 2021 using Scale AA. For disabilities, it is the RP-2000 Combined Healthy Table set forward 3 years. The mortality assumptions produce the following life expectancies:

| Age | CLASS A and B |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Service |  | Disability |  |
|  | Male | Female | Male | Female |
| 50 | 32.900 | 34.725 | 27.550 | 30.526 |
| 55 | 28.168 | 29.971 | 23.318 | 26.009 |
| 60 | 23.592 | 25.401 | 19.190 | 21.750 |
| 65 | 19.283 | 21.102 | 15.354 | 17.776 |
| 70 | 15.325 | 17.147 | 11.877 | 14.124 |

In the prior valuation, the mortality assumption for non-disability retirees was the RP-2000 Combined Healthy Table.

VALUATION METHOD: Individual entry age method. Gains and losses are reflected in the period remaining to liquidate the unfunded accrued liability.

ASSET VALUATION METHOD: Five-year smoothed market value. The actuarial value of assets is determined according to the following general formula, provided such value is within a $20 \%$ corridor of the market value:

$$
\begin{aligned}
& \mathrm{VA}=\mathrm{MV}-.8 \mathrm{I}_{1}-.6 \mathrm{I}_{2}-.4 \mathrm{I}_{3}-.2 \mathrm{I}_{4} \\
& \text { where } \\
& \mathrm{VA}=\text { Valuation assets } \\
& \mathrm{MV}=\text { Market value of assets as of the valuation date } \\
& \mathrm{I}_{\mathrm{n}}=\text { Investment gain (loss) during } \mathrm{n}^{\text {th }} \text { year preceding the valuation date }
\end{aligned}
$$

PURCHASED SERVICE LOAD: Due to a lack of purchased service data, loads have been added on to Fire and Police service. The loads were determined by retirement trends found in the period from July 1, 2004 to June 30, 2006 and are as follows:

Fire Service Load $=+0.63$ years of service
Police Service Load $=+2.11$ years of service
Class A did not receive a load as trends showed the impact of purchased service was insignificant.

## SCHEDULE C

## DETERMINATION OF ADJUSTED ASSET VALUE

| Reconciliation of Market Value of Plan Assets (accrual basis), 7/1/2007-7/1/2011 |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | $7 / 1 / 2007-$ | $7 / 1 / 2008-$ | $7 / 1 / 2009-$ | $7 / 1 / 2010-$ |
|  | $6 / 30 / 2008$ | $6 / 30 / 2009$ | $6 / 30 / 2010$ | $6 / 30 / 2011$ |
| Market value at beginning of period | $413,539,963$ | $361,121,167$ | $298,280,996$ | $316,485,233$ |
| Contributions during period | $65,663,848$ | $59,642,378$ | $60,590,954$ | $67,248,784$ |
| Total investment income | $(34,744,385)$ | $(44,215,885)$ | $39,116,922$ | $65,381,313$ |
| Benefit payments and expenses | $(83,338,259)$ | $(78,266,664)$ | $(81,503,639)$ | $(87,278,128)$ |
| Market value at end of period | $361,121,167$ | $298,280,996$ | $316,485,233$ | $361,837,203$ |
| Expected market value at end of period | $436,774,657$ | $377,487,246$ | $301,831,267$ | $322,516,405$ |
| Investment gain/(loss) for the year | $(75,653,490)$ | $(79,206,250)$ | $14,653,966$ | $39,320,798$ |


| Year Ended | Investment <br> Gain / (Loss) |  | Weight |  | Weighted Gain / (Loss) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 6/30/2011 | 39,320,798 | x | 0.80 | = | 31,456,638 |
| 6/30/2010 | 14,653,966 | x | 0.60 | = | 8,792,379 |
| 6/30/2009 | $(79,206,250)$ | X | 0.40 | $=$ | $(31,682,500)$ |
| 6/30/2008 | $(75,653,490)$ | x | 0.20 | = | $(15,130,698)$ |
|  |  |  |  |  | $(6,564,181)$ |

Actuarial Value of Assets = Market Value minus weighted gain $/($ loss $)=\quad$ 368,401,383
Plus discounted value of contribution due to be paid on June 30, 2012
54,437,806

Total
422,839,189
The return on the actuarial value of assets was $3.42 \%$ for the prior plan year. The return on a market value basis was about $21.33 \%$.

## SCHEDULE D

## SUMMARY OF MAIN PROVISIONS OF RETIREMENT SYSTEM

## AS INTERPRETED FOR VALUATION PURPOSES

## 1 - BENEFITS

Final compensation is the average of the highest three years of base compensation including longevity pay earned by a member during his total service as an employee.

Service is total employment by the City plus any purchased service.
Normal Service Retirement Allowance

Conditions for Allowance
The minimum age for normal service retirement is:
For Class A members hired prior to July 1, 1995:
Age 55 or the age at which 25 years of service are completed, if earlier.

For Class A members hired between July 1, 1995 and June 30, 2004:
Age 55 or the age at which 30 years of service are completed, if earlier.

For Class A members hired between July 1, 2004 and June 30, 2009:
Age 60 or the age at which 30 years of service are completed, if earlier.

For Class A members hired on or after July 1, 2009:
Age 62 with 10 years of service or the age at which 30 years of service are completed, if earlier.

For Class B members hired prior to July 1, 2012:
Age 55 or the age at which 20 years of service are completed, if earlier.

For Class B members hired on or after July 1, 2012:
Age 55 or the age at which 25 years of service are completed, if earlier. No members were valued with this eligibility in this valuation.

Provided by Member

Provided by City

An annuity which is the actuarial equivalent of his accumulated contributions at the time of his retirement, and

For Class A members hired prior to July 1, 1996:
A pension which when added to his normal annuity, exclusive of any excess annuity, will give a total retirement allowance of $1 / 40$ of his final compensation for each year of total service credited not in excess of 20 years plus $1 / 50$ of his final compensation for each year of total service credited in excess of 20 years.

For Class A members hired on or after July 1, 1996:
A pension which when added to his normal annuity, exclusive of any excess annuity, will give a total retirement allowance of $1 / 50$ of his final compensation for each year of total service credited.

For Police:
A pension which when added to his normal annuity, exclusive of any excess annuity, equals:

1. For members of the bargaining unit hired prior to September 1, 2001:

| Eligible Years of Service | Designated Percentage |
| :--- | :---: |
| Prior to 20 years of service | $2.5 \%$ per year |
| 20 years of service | $50 \%$ |
| 21 years of service | $52 \%$ |
| 22 years of service | $54 \%$ |
| 23 years of service | $56 \%$ |
| 24 years of service | $58 \%$ |
| 25 years of service | $65 \%$ |
| 26 years of service | $62 \%$ |
| 27 years of service | $64 \%$ |
| 28 years of service | $66 \%$ |
| 29 years of service | $68 \%$ |
| 30 years of service | $75 \%$ |
| 31 years of service | $72 \%$ |
| 32 years of service | $80 \%$ |

2. For members of the bargaining unit hired on or after September 1, 2001 and prior to July 1, 2012:

| Eligible Years of Service | Designated Percentage |
| :--- | :---: |
| Prior to 20 years of service | $2.5 \%$ per year |
| 20 years of service | $50 \%$ |
| 21 years of service | $52 \%$ |
| 22 years of service | $54 \%$ |
| 23 years of service | $56 \%$ |
| 24 years of service | $58 \%$ |
| 25 years of service | $60 \%$ |
| 26 years of service | $62 \%$ |
| 27 years of service | $64 \%$ |
| 28 years of service | $66 \%$ |
| 29 years of service | $68 \%$ |
| 30 years of service | $70 \%$ |
| 31 years of service | $72 \%$ |
| 32 years of service | $75 \%$ |

3. For members of the bargaining unit hired on or after July 1, 2012:

| Eligible Years of Service | Designated Percentage |
| :--- | :---: |
| Prior to 25 years of service | $2.0 \%$ per year |
| 25 years of service | $50.0 \%$ |
| 26 years of service | $52.5 \%$ |
| 27 years of service | $55.0 \%$ |
| 28 years of service | $57.5 \%$ |
| 29 years of service | $60.0 \%$ |
| 30 years of service | $62.5 \%$ |
| 31 years of service | $65.0 \%$ |
| 32 years of service | $67.5 \%$ |
| 33 years of service | $70.0 \%$ |
| 34 years of service | $72.5 \%$ |
| 35 years of service | $75.0 \%$ |

No members were valued with this benefit in this valuation.

For all other Class B:
A pension which when added to his normal annuity, exclusive of any excess annuity, will give a total retirement allowance of $1 / 40$ of his final compensation for each year of total service credited not in excess of 20 years plus $1 / 50$ of his final compensation for each year of total service credited in excess of 20 years but not in excess of 32 years and 6 months.

## Early Retirement Allowance

Conditions for Allowance

Amount of Allowance

## Deferred Retirement Allowance

Conditions for Allowance

Amount of Allowance

> Provided by Member

Provided by City

Ordinary Disability Retirement Allowance
Conditions for Allowance For Police:
After 10 years but less than 20 years of service.
For All Others:
After 10 years of service, a member under the minimum age for service retirement may be retired for disability upon his own request or upon the request of the head of the department employing him.

Provided by Member

Provided by City

An annuity which is the actuarial equivalent of his accumulated contributions at the time of his retirement, and

If the member is a Class A member:
A pension which when added to his normal annuity, exclusive of any excess annuity, will give a total retirement allowance of $9 / 10$ of $1 / 50$ of his final compensation for each year of total service which would have been credited had he continued in service to the minimum age for service retirement, but such retirement allowance, exclusive of any excess annuity, is not to exceed $45 \%$ of his final compensation.

## For Police:

A pension which when added to his normal annuity will give a total retirement allowance, equal to a percentage of his final compensation, as described in the following table:

| Eligible Years of Service |  | Percentage |
| :--- | :--- | :--- |
| 10 years of service |  | $22.50 \%$ |
| 11 years of service |  | $24.75 \%$ |
| 12 years of service |  | $27.00 \%$ |
| 13 years of service |  | $29.25 \%$ |
| 14 years of service |  | $31.50 \%$ |
| 15 years of service |  | $33.75 \%$ |
| 16 years of service |  | $36.00 \%$ |
| 17 years of service |  | $38.25 \%$ |
| 18 years of service |  | $40.50 \%$ |
| 19 years of service |  | $42.75 \%$ |

## For All other Class B:

A pension which when added to his normal annuity, exclusive of any excess annuity, will give a total retirement allowance of $9 / 10$ of $1 / 40$ of his final compensation for each year of total service which would have been credited had he continued in service to the minimum age for service retirement, but such retirement allowance, exclusive of any excess annuity, is not to exceed $45 \%$ of his final compensation.

Accidental Disability Retirement Allowance
Conditions for Allowance
A member may be retired on account of accidental disability occurring in the performance of duty regardless of age or length of service.

Amount of Allowance
Provided by Member Non-Police:
An annuity that is the actuarial equivalent of his accumulated contributions at the time of his retirement.

## Police:

In light of the member's receipt of the pension stated below, the only annuity payable is the actuarial equivalent of any accumulated additional contributions at the time of his retirement.
and

Provided by City

## For All:

A pension of 66-2/3\% of his final compensation, but not less than the service retirement allowance. Upon the death of a member within 5 years after accidental disability retirement as a result of an accident while in the performance of duty, a pension of one-half of the member's final compensation is paid to his widow until she dies or remarries, at which point the pension is paid to his child or children until they attain age 19.

## Accidental Death Benefit

Conditions for Benefit

Amount of Benefit
An accidental death benefit is payable upon the death of any member due to an accident in the performance of duty.

A pension of one-half of the member's final compensation is paid to his widow until she dies or remarries, at which point the pension is payable to his child or children until they attain age 19. If there are no other dependents, the pension is payable to his dependent parents. In addition, a lump sum payment of the member's accumulated contributions is made.

Withdrawal or Ordinary Death Benefit

Benefit upon Death after Retirement

Minimum Benefits

A member who withdraws prior to eligibility for retirement receives his accumulated contributions. Should a member die before retirement his accumulated contributions are paid to his estate or beneficiary; provided, however, if he has attained minimum retirement age and has not made an optional election as described below, and is survived by a spouse, such spouse is entitled, in lieu of the return of the member's accumulated contributions, to a benefit equal to that which would have been payable to such spouse upon the death of the member had the member retired on the day of his death and elected to receive a benefit under the provisions of Option 2, as described below, and nominated his spouse as his designated beneficiary, except that for a Class B member the benefit to the spouse shall not be less than $67112 \%$ of the benefit that would have been paid to such retired member without reduction.

## For Class A:

Benefits under any option. Also, the excess, if any, of the member's accumulated contributions at retirement over all payments paid out on the member's account.

## For Class B:

Upon the death of a Class B pensioner, $67 ½ \%$ of his/her retirement allowance is paid to his widow/widower until he/she dies or remarries, at which point the benefit is paid to any dependent children until they attain age 18. Also, the excess, if any, of the member's accumulated contributions at retirement over the total of all payments paid out on the member's account.

The minimum monthly retirement allowance is $\$ 600$, prorated for members whose credited service at retirement is less than 25.

Options at Retirement

Options upon Attainment of Minimum Retirement Age

At retirement, a member may elect to convert his allowance into a benefit of equivalent actuarial value in accordance with one of the options described below:

Option 1. A reduced retirement allowance payable during the retired member's life, with a provision that in case of death before such payments have equaled the present value of his retirement allowance at the date of retirement, the balance shall be paid to the heirs or assigns; or

Option 2. A reduced retirement allowance payable during the retired member's life, with a provision that after his death it shall be continued during the life of and paid to the person nominated by him by written designation at the time of his retirement; or

Option 3. A reduced retirement allowance payable during the retired member's life, with a provision that after his death an allowance at one-half the rate of his reduced allowance shall be continued during the life of and paid to the person nominated by him by written designation at the time of his retirement; or

Option 4. A reduced retirement allowance payable during the retired member's life, with some other benefit payable after his death, provided that the benefit shall be certified by the actuary and approved by the retirement board. This Option is not available to Police who retire on an Accidental Disability Allowance.

Class B members may not elect Options 2 or 3.
Married Class B members may also not elect Option 1.
Any member who has attained minimum retirement age may elect, in accordance with Option 2, 3 or 4 above, a reduced retirement allowance with provision for benefits to a person having an insurable interest in his life, other than his wife. The benefit is determined as of the member's date of death or retirement, if prior thereto, in accordance with the provisions of the option selected and is in lieu of the return of the member's accumulated contributions if death occurs during the member's continuance in service after attainment of minimum retirement age. Such election is irrevocable after the option becomes effective unless the designated
beneficiary predeceases the member prior to his retirement.

## For Class A:

$3 \%$ compounded for members who retired prior to 12/18/91; no adjustment for other Class A members.

## For Police:

5\% compounded for members who retired prior to January 1, 1990; 6\% compounded for members who retired between January 1, 1990 and December 18, 1991; $5 \%$ compounded for members who retired between December 19, 1991 and December 31, 1992; 3\% simple on first $\$ 12,000$ of annual benefit for Non-Union Police; 5\% compounded for special court awarded members; 3\% compounded for other retired members; for all members hired on or after July 1, 2012, the COLA will be based on the Consumer Price Index for the Northeast Region but shall not be less than $1 \%$ and shall not exceed $3 \%$ simple (no members were valued with this COLA in this valuation); and Police pensions are limited to the current salary of an active participant of the same rank.

## For all other Class B Retirees:

5\% compounded for members who retired prior to January 1, 1990; 6\% compounded for members who retired between January 1, 1990 and December 18, 1991; $5 \%$ compounded for members who retired between December 19, 1991 and June 30, 1992; 6\% compounded for members who retired between July 1, 1992 and June 30, 1995; $3 \%$ simple on first $\$ 12,000$ of annual benefit for members who retired between July 1, 1995 and March 16, 2006; 5\% compounded for special court awarded members; $3 \%$ compounded for other retired members; for all members hired on or after July 1, 2012, the COLA will be based on the Consumer Price Index for the Northeast Region but shall not 3\% simple (no members were valued with this COLA in this valuation).

The initial COLA payment is deferred until the January 1 that occurs three years after the member's retirement date.

Provisions for Elected Officials

Provided by Members

Provided by City

Any person who has served as Mayor or City Councilman for at least eight full legislative years is entitled to a retirement allowance on the basis of such service as an elected official upon attainment of age 52 or the completion of 20 consecutive years as an elected official, whichever is earlier, or the occurrence of total and permanent disability prior thereto.

Such retirement allowance is currently \$350 for each year of service, provided that no more than 20 years of such service are to be used in determining the allowance.

Upon the death of any such elected official, benefits are payable in accordance with the Class A provisions of the act.

An elected official may elect to withdraw his accumulated contributions in lieu of his rights to the allowance based on service as an elected official.

## 2 - CONTRIBUTIONS

For Class A: 8\% of their salaries.
For Police: 8\% of their salaries
For Firefighters hired on or after July 1, 2011: 9\% of their salaries. No members were valued with this contribution rate in this valuation.

For all other Class B Members: 8\% of their salaries. In the prior valuation the contribution rate valued was $91 / 2 \%$ of their salaries.

The Mayor and members of the City Council are required to contribute at the rate of $\$ 350$ per year.

Member contributions may cease after 25 years of service.

The City makes the balance of contributions needed to fund the system.

In addition the City shall contribute from time to time amounts sufficient with the contributions of elected officials to provide the special pensions granted to elected officials.

## SCHEDULE E

TABLES OF EMPLOYEE DATA

## TABLE 1

The Number and Annual Average Salaries of Members Distributed By 5th Age and Service

As of June 30, 2011
CLASS A

| SERVICE <br> AGE | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-36 | 37+ | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| <20 | 1 |  |  |  |  |  |  |  |  |  | 1 | NUMBER |
|  | 38,480 |  |  |  |  |  |  |  |  |  | 38,480 | SALARY |
| 20-24 | 21 | 11 | 1 |  |  |  |  |  |  |  | 33 | NUMBER |
|  | 24,927 | 34,926 | 37,194 |  |  |  |  |  |  |  | 28,631 | SALARY |
| 25-29 | 29 | 68 | 18 | 1 |  |  |  |  |  |  | 116 | NUMBER |
|  | 25,903 | 30,198 | 38,050 | 45,729 |  |  |  |  |  |  | 30,477 | SALARY |
| 30-34 | 26 | 39 | 57 | 40 | 1 |  |  |  |  |  | 163 | NUMBER |
|  | 27,937 | 39,936 | 37,089 | 36,161 | 26,321 |  |  |  |  |  | 36,017 | SALARY |
| 35-39 | 23 | 50 | 67 | 81 | 22 | 2 |  |  |  |  | 245 | NUMBER |
|  | 31,342 | 35,718 | 36,109 | 34,112 | 40,631 | 37,646 |  |  |  |  | 35,340 | SALARY |
| 40-44 | 22 | 52 | 60 | 77 | 56 | 29 | 1 |  |  |  | 297 | NUMBER |
|  | 29,790 | 35,380 | 39,886 | 38,432 | 42,255 | 44,940 | 39,741 |  |  |  | 38,912 | SALARY |
| 45-49 | 26 | 63 | 77 | 88 | 54 | 45 | 4 | 1 |  |  | 358 | NUMBER |
|  | 31,647 | 33,914 | 35,785 | 37,960 | 44,535 | 49,451 | 57,400 | 54,406 |  |  | 39,021 | SALARY |
| 50-54 | 23 | 47 | 60 | 94 | 63 | 53 | 17 | 11 | 4 | 1 | 373 | NUMBER |
|  | 27,176 | 35,770 | 38,089 | 32,540 | 41,660 | 47,921 | 52,166 | 53,048 | 60,654 | 41,237 | 39,059 | SALARY |
| 55-59 | 14 | 36 | 47 | 65 | 50 | 40 | 9 | 10 | 15 | 5 | 291 | NUMBER |
|  | 26,014 | 35,929 | 43,010 | 35,040 | 40,090 | 39,391 | 54,076 | 62,539 | 54,703 | 46,110 | 40,206 | SALARY |
| 60-64 | 6 | 17 | 29 | 33 | 24 | 22 | 6 | 8 | 3 | 13 | 161 | NUMBER |
|  | 41,688 | 51,991 | 50,491 | 35,446 | 42,412 | 44,700 | 56,286 | 49,969 | 58,244 | 58,760 | 46,244 | SALARY |
| 65-69 |  | 2 | 14 | 11 | 11 | 4 | 4 | 2 | 2 | 3 | 53 | NUMBER |
|  |  | 40,962 | 38,165 | 38,504 | 45,233 | 39,485 | 57,907 | 54,622 | 39,217 | 48,652 | 42,652 | SALARY |
| 70-74 |  | 3 | 5 | 6 | 6 | 2 | 1 | 1 | 1 |  | 25 | NUMBER |
|  |  | 56,674 | 35,713 | 38,602 | 48,172 | 46,080 | 35,884 | 46,912 | 49,100 |  | 43,731 | SALARY |
| 75-76 |  |  | 1 | 2 |  |  |  |  |  |  | 3 | NUMBER |
|  |  |  | 27,538 | 33,813 |  |  |  |  |  |  | 31,721 | SALARY |
| 77+ |  |  | 2 | 1 | 1 |  |  |  |  | 2 | 6 | NUMBER |
|  |  |  | 38,784 | 10,013 | 21,708 |  |  |  |  | 47,164 | 33,936 | SALARY |
| TOTAL | 191 | 388 | 438 | 499 | 288 | 197 | 42 | 33 | 25 | 24 | 2,125 | NUMBER |
|  | 28,680 | 35,742 | 38,797 | 35,659 | 42,176 | 45,446 | 53,525 | 55,128 | 54,617 | 53,165 | 38,560 | SALARY |

TABLE 2
The Number and Annual Average Salaries of Members Distributed By 5th Age and Service

As of June 30, 2011
CLASS B


## TABLE 3

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

## SERVICE RETIREMENTS

CLASS A

| AGE | NUMBER |  | AMOUNT |
| ---: | ---: | ---: | ---: |
| 16 | 1 | $\$ 5,440$ |  |
| 45 | 1 | 12,446 |  |
| 47 | 1 | 26,644 |  |
| 49 | 2 | 29,988 |  |
| 50 | 2 | 44,168 |  |
| 51 | 4 | 85,947 |  |
| 52 | 5 | 129,204 |  |
| 53 | 5 | 140,724 |  |
| 54 | 7 | 257,072 |  |
| 55 | 21 | 531,776 |  |
| 56 | 30 | 709,281 |  |
| 57 | 25 | 656,328 |  |
| 58 | 38 | 742,075 |  |
| 59 | 46 | $1,124,336$ |  |
| 60 | 37 | 833,149 |  |
| 61 | 39 | 701,720 |  |
| 62 | 39 | 851,103 |  |
| 63 | 44 | 722,011 |  |
| 64 | 53 | $1,071,602$ |  |
| 65 | 39 | 776,515 |  |
| 66 | 49 | 751,393 |  |
| 67 | 37 | 631,931 |  |
| 68 | 48 | 783,970 |  |
| 69 | 31 | 541,369 |  |
| 70 | 41 | 572,494 |  |
| 71 | 54 | 756,359 |  |
| 72 | 37 | 585,192 |  |
| 73 | 42 | 494,626 |  |
| 74 | 38 | 546,137 |  |
| 75 | 39 | 528,437 |  |
| 76 | 31 | 444,931 |  |

TABLE 3 (CONTINUED)
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

SERVICE RETIREMENTS
CLASS A

| AGE | NUMBER | AMOUNT |
| ---: | ---: | ---: | ---: |
| 77 | 44 | $\$ 702,204$ |
| 78 | 52 | 843,748 |
| 79 | 40 | 585,516 |
| 80 | 43 | 759,258 |
| 81 | 44 | 813,424 |
| 82 | 37 | 668,765 |
| 83 | 29 | 458,758 |
| 84 | 23 | 431,965 |
| 85 | 28 | 422,064 |
| 86 | 24 | 317,115 |
| 87 | 22 | 396,660 |
| 88 | 14 | 152,768 |
| 89 | 17 | 213,895 |
| 90 | 14 | 158,150 |
| 91 | 9 | 104,097 |
| 92 | 8 | 140,456 |
| 93 | 7 | 91,506 |
| 94 | 9 | 102,901 |
| 95 | 4 | 39,737 |
| 96 | 6 | 74,923 |
| 98 | 2 | 33,362 |
| 99 | 1 | 5,602 |
| 103 | 1 | 11,616 |
| 107 | 1 | 3,536 |
|  |  |  |
| TOTAL | 1,365 | $\$ 23,620,394$ |

TABLE 4
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

## SERVICE RETIREMENTS

CLASS B

| AGE | NUMBER | AMOUNT |
| ---: | ---: | ---: |
| 38 | 1 | $\$ 37,467$ |
| 40 | 1 | 26,923 |
| 41 | 1 | 39,028 |
| 42 | 1 | 31,859 |
| 44 | 8 | 233,750 |
| 45 | 6 | 208,281 |
| 46 | 10 | 276,157 |
| 47 | 3 | 81,677 |
| 48 | 10 | 299,111 |
| 49 | 9 | 298,828 |
| 50 | 8 | 238,093 |
| 51 | 8 | 298,180 |
| 52 | 10 | 365,717 |
| 53 | 14 | 522,346 |
| 54 | 18 | 640,494 |
| 55 | 16 | 658,165 |
| 56 | 13 | 441,539 |
| 57 | 25 | 983,833 |
| 58 | 17 | 615,608 |
| 59 | 19 | 715,575 |
| 60 | 23 | 873,207 |
| 61 | 24 | $1,044,094$ |
| 62 | 22 | 847,234 |
| 63 | 28 | $1,171,969$ |
| 64 | 31 | $1,287,602$ |
| 65 | 18 | 723,286 |
| 66 | 19 | 916,881 |
| 67 | 17 | 729,303 |
| 68 | 13 | 618,970 |
| 69 | 7 | 316,597 |
| 70 | 71 | 270,673 |
| 71 |  | 538,154 |

TABLE 4 (CONTINUED)
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

SERVICE RETIREMENTS
CLASS B

| AGE | NUMBER | AMOUNT |
| ---: | ---: | ---: |
|  |  |  |
| 72 | 8 | $\$ 229,690$ |
| 73 | 9 | 369,850 |
| 74 | 16 | 614,070 |
| 75 | 9 | 346,997 |
| 76 | 9 | 435,096 |
| 77 | 7 | 259,432 |
| 78 | 10 | 437,718 |
| 79 | 11 | 418,212 |
| 80 | 7 | 175,845 |
| 81 | 14 | 430,857 |
| 82 | 14 | 624,488 |
| 83 | 4 | 140,007 |
| 84 | 7 | 364,372 |
| 85 | 6 | 223,071 |
| 86 | 10 | 329,931 |
| 87 | 5 | 114,094 |
| 88 | 7 | 306,472 |
| 89 | 5 | 223,207 |
| 90 | 3 | 71,692 |
| 93 | 1 | 28,183 |
|  |  |  |
| TOTAL | 580 | $\$ 22,493,885$ |

TABLE 5
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

ELECTIVE OFFICIALS AND DEPENDENTS OF ELECTIVE OFFICIALS

| AGE | NUMBER |  | AMOUNT |
| ---: | ---: | ---: | ---: |
|  |  |  |  |
| 56 | 2 | $\$ 8,244$ |  |
| 58 | 1 | 6,352 |  |
| 59 | 1 | 6,199 |  |
| 60 | 1 | 2,800 |  |
| 61 | 2 | 9,659 |  |
| 62 | 1 | 2,258 |  |
| 64 | 2 | 8,573 |  |
| 69 | 2 | 7,158 |  |
| 70 | 1 | 4,915 |  |
| 71 | 3 | 11,332 |  |
| 72 | 1 | 3,450 |  |
| 73 | 4 | 20,690 |  |
| 75 | 1 | 3,246 |  |
| 81 | 2 | 11,372 |  |
| 84 | 1 | 3,179 |  |
| 85 | 1 | 5,989 |  |
| 87 | 3 | 8,707 |  |
| 91 | 1 | 10,113 |  |
| 99 | 1 | 5,644 |  |

TABLE 6
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY

AGE AS OF JUNE 30, 2011

## DISABILITY RETIREMENTS

## CLASS A

|  | ORDINARY |  | ACCIDENTAL |  | TOTAL |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| AGE | NUMBER | $\underline{\text { AMOUNT }}$ |  | NUMBER | $\underline{\text { AMOUNT }}$ |  | NUMBER | AMOUNT

TABLE 6 (CONTINUED)
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

DISABILITY RETIREMENTS

|  | CLASS A |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ORDINARY |  | ACCIDENTAL |  | TOTAL |  |
| AGE | NUMBER | AMOUNT | NUMBER | AMOUNT | NUMBER | AMOUNT |
| 85 |  |  | 1 | \$6,144 | 1 | \$6,144 |
| 88 |  |  | 1 | 22,557 | 1 | 22,557 |
| 90 |  |  | 1 | 5,865 | 1 | 5,865 |
| 92 |  |  | 1 | 12,601 | 1 | 12,601 |
| 107 |  |  | 1 | 15,181 | 1 | 15,181 |
| TOTAL | 14 | \$168,121 | 70 | \$1,357,572 | 84 | \$1,525,693 |

TABLE 7
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY

AGE AS OF JUNE 30, 2011

## DISABILITY RETIREMENTS

## CLASS B

| AGE | ORDINARY |  | ACCIDENTAL |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NUMBER | AMOUNT | NUMBER | AMOUNT | NUMBER | AMOUNT |
| 25 |  |  | 1 | \$36,028 | 1 | \$36,028 |
| 37 |  |  | 1 | 39,027 | 1 | 39,027 |
| 38 | 1 | \$10,462 |  |  | 1 | 10,462 |
| 39 |  |  | 2 | 73,977 | 2 | 73,977 |
| 40 |  |  | 1 | 38,173 | 1 | 38,173 |
| 41 | 2 | 33,930 | 1 | 43,206 | 3 | 77,136 |
| 42 |  |  | 2 | 81,060 | 2 | 81,060 |
| 43 |  |  | 3 | 130,067 | 3 | 130,067 |
| 44 |  |  | 4 | 112,370 | 4 | 112,370 |
| 45 | 1 | 18,783 | 2 | 77,811 | 3 | 96,594 |
| 46 | 1 | 24,003 | 3 | 110,088 | 4 | 134,091 |
| 47 | 1 | 20,873 | 5 | 184,224 | 6 | 205,097 |
| 48 |  |  | 5 | 191,126 | 5 | 191,126 |
| 49 | 1 | 20,389 | 7 | 294,923 | 8 | 315,312 |
| 50 |  |  | 4 | 222,988 | 4 | 222,988 |
| 51 | 1 | 24,271 | 7 | 291,229 | 8 | 315,500 |
| 52 | 2 | 32,644 | 8 | 431,682 | 10 | 464,326 |
| 53 |  |  | 17 | 834,617 | 17 | 834,617 |
| 54 | 1 | 19,698 | 8 | 372,852 | 9 | 392,550 |
| 55 |  |  | 10 | 407,130 | 10 | 407,130 |
| 56 |  |  | 11 | 537,337 | 11 | 537,337 |
| 57 |  |  | 10 | 501,925 | 10 | 501,925 |
| 58 |  |  | 11 | 616,543 | 11 | 616,543 |
| 59 |  |  | 9 | 394,521 | 9 | 394,521 |
| 60 |  |  | 14 | 822,387 | 14 | 822,387 |
| 61 |  |  | 15 | 798,275 | 15 | 798,275 |
| 62 |  |  | 16 | 902,789 | 16 | 902,789 |
| 63 |  |  | 20 | 1,310,689 | 20 | 1,310,689 |
| 64 |  |  | 24 | 1,369,763 | 24 | 1,369,763 |
| 65 | 1 | 23,223 | 14 | 704,304 | 15 | 727,527 |
| 66 |  |  | 18 | 1,140,878 | 18 | 1,140,878 |

## TABLE 7 (CONTINUED)

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

## DISABILITY RETIREMENTS

## CLASS B

| AGE | CLASS B |  |  |  | TOTAL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ORDINARY |  | ACCIDENTAL |  |  |  |
|  | NUMBER | AMOUNT | NUMBER | AMOUNT | NUMBER | AMOUNT |
| 67 |  |  | 14 | \$975,469 | 14 | \$975,469 |
| 68 |  |  | 14 | 845,023 | 14 | 845,023 |
| 69 |  |  | 9 | 534,524 | 9 | 534,524 |
| 70 |  |  | 12 | 776,106 | 12 | 776,106 |
| 71 |  |  | 16 | 1,100,520 | 16 | 1,100,520 |
| 72 |  |  | 14 | 1,104,161 | 14 | 1,104,161 |
| 73 |  |  | 4 | 230,905 | 4 | 230,905 |
| 74 |  |  | 6 | 295,978 | 6 | 295,978 |
| 75 |  |  | 11 | 946,830 | 11 | 946,830 |
| 76 |  |  | 3 | 132,229 | 3 | 132,229 |
| 77 |  |  | 11 | 828,977 | 11 | 828,977 |
| 78 |  |  | 7 | 560,409 | 7 | 560,409 |
| 79 |  |  | 8 | 563,405 | 8 | 563,405 |
| 80 |  |  | 8 | 583,841 | 8 | 583,841 |
| 81 |  |  | 2 | 116,141 | 2 | 116,141 |
| 82 |  |  | 4 | 281,014 | 4 | 281,014 |
| 83 | 1 | \$18,194 | 5 | 338,698 | 6 | 356,892 |
| 84 |  |  | 4 | 166,718 | 4 | 166,718 |
| 85 |  |  | 3 | 282,962 | 3 | 282,962 |
| 86 |  |  | 2 | 158,926 | 2 | 158,926 |
| 87 |  |  | 2 | 74,049 | 2 | 74,049 |
| 88 |  |  | 1 | 29,856 | 1 | 29,856 |
| 89 |  |  | 1 | 17,328 | 1 | 17,328 |
| 90 |  |  | 1 | 34,675 | 1 | 34,675 |
| 96 |  |  | 2 | 62,315 | 2 | 62,315 |

TOTAL
13 \$246,470
417 \$24,113,048
430 \$24,359,518

TABLE 8
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES OF DECEASED ACTIVE AND RETIRED MEMBERS DISTRIBUTED BY

AGE AS OF JUNE 30, 2011

| CLASS A |  |  |
| :---: | :---: | :---: |
| AGE | NUMBER | AMOUNT |
| 38 | 1 | \$7,948 |
| 48 | 1 | 9,453 |
| 52 | 1 | 14,609 |
| 53 | 2 | 25,836 |
| 54 | 1 | 32,138 |
| 55 | 4 | 50,679 |
| 57 | 3 | 18,309 |
| 58 | 1 | 14,457 |
| 59 | 5 | 56,598 |
| 60 | 2 | 29,796 |
| 62 | 4 | 73,208 |
| 63 | 3 | 45,390 |
| 64 | 2 | 12,266 |
| 65 | 2 | 24,737 |
| 67 | 3 | 43,667 |
| 68 | 3 | 24,388 |
| 69 | 5 | 62,405 |
| 70 | 4 | 93,684 |
| 71 | 3 | 43,798 |
| 72 | 4 | 63,908 |
| 73 | 7 | 69,977 |
| 74 | 6 | 64,556 |
| 75 | 7 | 64,143 |
| 76 | 5 | 55,170 |
| 77 | 6 | 94,359 |
| 78 | 7 | 76,808 |
| 79 | 4 | 44,866 |
| 80 | 4 | 71,464 |
| 81 | 10 | 102,186 |
| 82 | 8 | 95,018 |

## TABLE 8 (CONTINUED)

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES OF DECEASED ACTIVE AND RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

|  | CLASS A |  |
| ---: | ---: | ---: |
| AGE | NUMBER | AMOUNT |
|  |  |  |
| 83 | 12 | $\$ 155,029$ |
| 84 | 10 | 163,228 |
| 85 | 12 | 110,104 |
| 86 | 3 | 29,779 |
| 87 | 11 | 145,928 |
| 88 | 5 | 42,130 |
| 89 | 3 | 28,099 |
| 90 | 3 | 41,010 |
| 91 | 5 | 45,782 |
| 92 | 7 | 74,162 |
| 93 | 4 | 26,636 |
| 94 | 5 | 41,304 |
| 95 | 2 | 20,951 |
| 96 | 4 | 33,964 |
| 97 | 1 | 10,816 |
| 98 | 1 | 8,838 |
| 99 | 1 | 4,284 |
| 101 | 1 | 12,626 |
| 102 | 1 | 9,175 |
|  |  |  |
| TOTAL | 209 | $\$ 2,489,666$ |

## TABLE 9

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES OF DECEASED ACTIVE AND RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

| CLASS B |  |  |
| :---: | :---: | :---: |
| AGE | NUMBER | AMOUNT |
| 14 | 3 | \$36,965 |
| 42 | 1 | 32,184 |
| 43 | 1 | 9,430 |
| 44 | 2 | 32,679 |
| 46 | 3 | 53,124 |
| 47 | 1 | 5,460 |
| 48 | 1 | 7,228 |
| 50 | 2 | 83,955 |
| 52 | 6 | 167,441 |
| 54 | 2 | 29,646 |
| 55 | 1 | 37,390 |
| 56 | 4 | 114,579 |
| 57 | 9 | 288,400 |
| 58 | 7 | 184,794 |
| 59 | 2 | 60,800 |
| 60 | 1 | 57,889 |
| 61 | 8 | 200,297 |
| 62 | 4 | 104,005 |
| 63 | 6 | 223,528 |
| 64 | 5 | 102,999 |
| 65 | 7 | 284,250 |
| 66 | 9 | 294,011 |
| 67 | 4 | 167,206 |
| 68 | 7 | 189,398 |
| 69 | 5 | 164,829 |
| 70 | 6 | 284,782 |
| 71 | 7 | 301,543 |
| 72 | 6 | 275,877 |
| 73 | 7 | 280,090 |
| 74 | 3 | 51,667 |

## TABLE 9 (CONTINUED)

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES OF DECEASED ACTIVE AND RETIRED MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 2011

| CLASS B |  |  |
| ---: | ---: | ---: |
| AGE | NUMBER | $\underline{\text { AMOUNT }}$ |
|  |  |  |
| 75 | 7 | $\$ 263,559$ |
| 76 | 8 | 196,629 |
| 77 | 8 | 229,220 |
| 78 | 9 | 274,396 |
| 79 | 15 | 570,582 |
| 80 | 5 | 128,949 |
| 81 | 13 | 346,467 |
| 82 | 10 | 317,430 |
| 83 | 10 | 199,143 |
| 84 | 19 | 460,386 |
| 85 | 10 | 243,126 |
| 86 | 10 | 241,251 |
| 87 | 7 | 139,640 |
| 88 | 10 | 240,883 |
| 89 | 6 | 127,370 |
| 90 | 4 | 93,605 |
| 91 | 8 | 191,552 |
| 92 | 1 | 14,256 |
| 93 | 1 | 12,281 |
| 94 | 3 | 50,685 |
| 95 | 2 | 32,205 |
| 98 | 2 | 36,389 |
| 100 | 2 | 34,436 |
|  |  |  |
| TOTAL | 300 | $\$ 8,570,886$ |

## SCHEDULE F

## 28 YEAR APPROPRIATION FORECAST

| Fiscal Year Ending | Normal Cost | Past Service Amortization | Deferral <br> Amortization | Total | Pay-As-You-Go |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 6/30/2012 | \$9,489,420 | \$48,946,899 | \$492,606 | \$58,928,925 | \$85,709,864 |
| 6/30/2013 | 11,511,985 | 52,799,469 | 471,667 | 64,783,121 | 89,521,287 |
| 6/30/2014 | 11,972,464 | 55,439,442 | 471,667 | 67,883,573 | 93,348,131 |
| 6/30/2015 | 12,451,363 | 58,211,414 | 471,667 | 71,134,444 | 97,216,663 |
| 6/30/2016 | 12,949,418 | 61,121,985 | 471,667 | 74,543,070 | 101,060,817 |
| 6/30/2017 | 13,467,395 | 64,178,084 | 471,667 | 78,117,146 | 104,937,769 |
| 6/30/2018 | 14,006,091 | 67,386,988 | 471,667 | 81,864,746 | 108,893,725 |
| 6/30/2019 | 14,566,335 | 70,756,337 | 471,667 | 85,794,339 | 112,785,910 |
| 6/30/2020 | 15,148,988 | 74,294,154 | 471,667 | 89,914,809 | 116,573,313 |
| 6/30/2021 | 15,754,948 | 78,008,862 | 471,667 | 94,235,477 | 120,431,249 |
| 6/30/2022 | 16,385,146 | 81,909,305 | 471,667 | 98,766,118 | 124,345,142 |
| 6/30/2023 | 17,040,552 | 86,004,770 | 471,667 | 103,516,989 | 128,281,383 |
| 6/30/2024 | 17,722,174 | 90,305,009 | 471,667 | 108,498,850 | 131,998,649 |
| 6/30/2025 | 18,431,061 | 94,820,259 | 471,667 | 113,722,987 | 135,559,442 |
| 6/30/2026 | 19,168,303 | 99,561,272 | 471,667 | 119,201,242 | 138,883,912 |
| 6/30/2027 | 19,935,035 | 104,539,336 | 471,667 | 124,946,038 | 141,985,686 |
| 6/30/2028 | 20,732,436 | 109,766,303 | 471,667 | 130,970,406 | 144,876,230 |
| 6/30/2029 | 21,561,733 | 115,254,618 | 471,667 | 137,288,018 | 147,575,835 |
| 6/30/2030 | 22,424,202 | 121,017,349 | 471,667 | 143,913,218 | 149,957,538 |
| 6/30/2031 | 23,321,170 | 127,068,216 | 471,667 | 150,861,053 | 152,012,659 |
| 6/30/2032 | 24,254,017 | 133,421,627 | - | 157,675,644 | 153,688,111 |
| 6/30/2033 | 25,224,178 | 140,092,708 | - | 165,316,886 | 155,003,325 |
| 6/30/2034 | 26,233,145 | 147,097,343 | - | 173,330,488 | 155,825,620 |
| 6/30/2035 | 27,282,471 | 154,452,210 | - | 181,734,681 | 156,210,653 |
| 6/30/2036 | 28,373,770 | 162,174,821 | - | 190,548,591 | 156,118,982 |
| 6/30/2037 | 29,508,721 | 170,283,562 | - | 199,792,283 | 155,566,042 |
| 6/30/2038 | 30,689,070 | 178,797,740 | - | 209,486,810 | 154,577,275 |
| 6/30/2039 | 31,916,633 | 187,737,627 | - | 219,654,260 | 153,125,399 |
| 6/30/2040 | 33,193,298 | - | - | 33,193,298 | 151,269,326 |
| 6/30/2041 | 34,521,030 | - | - | 34,521,030 | 148,973,637 |
| 6/30/2042 | 35,901,871 | - | - | 35,901,871 | 146,305,744 |

## SCHEDULE G

## CHANGES IN UNFUNDED LIABILITY

| $7 / 1 / 2010$ Unfunded Liability | $\$ 828,484,533$ |
| :--- | :---: |
| Expected Unfunded as of 7/1/2011 | $\$ 853,271,983$ |
|  |  |
| Actual Unfunded as of 7/1/2011 |  |
| $\quad$ (without Assumption Changes) | $\$ 865,994,410$ |
|  |  |
| Gain/(Loss) | $(\$ 12,722,427)$ |
|  |  |
| Asset Gain/(Loss) | $(\$ 18,609,736)$ |
| Liability Gain/(Loss) | $\$ 5,887,309$ |
| Salary Increases | $\$ 4,976,437$ |
| New Active Participants | $(\$ 4,200,369)$ |
| Active - Retirements | $(\$ 2,255,547)$ |
| Active - Terminations | $\$ 4,435,534$ |
| Active - Mortality | $\$ 455,244$ |
| Active - Disabilities | $\$ 2,106,294$ |
| Inactive Mortality and Data Adjustment | $\$ 2,920,523$ |
| Other | $(\$ 2,550,807)$ |
|  |  |
| Assumption Changes* | $\$ 34,990,503$ |

* The mortality, interest rate, salary scale and longevity assumptions all changed during the past year.

