# (ity of Atlanta <br> Police Officers' Pension Fund 

Actuarial Valuation<br>As of Juty 1,2011

Determines the Contribution
For the 2012/13 Fiscal Year

Discussion 1

## Funding Results

Table I-A Minimum Required Contribution I-1
Table I-B Sensitivity Analysis I-2
Table I-C Gain and Loss Analysis l-3
Table I-D Present Value of Future Benefits I-4
Table I-E Present Value of Accrued Benefits I-5
Table I-F Present Value of Vested Benefits I-6
Table I-G Entry Age Normal Accrued Liability I-7
Table I-H Entry Age Normal Cost I-8
Accounting Results
Table II-A GASB 25/27 Results |l-1
Table II-B GASB $25 / 27$ Disclosures ||-2
Table II-C SFAS 35 Disclosures II-3
Assets
Table III-A Actuarial Value of Assets III-1
Table III-B Market Value of Assets III-2
Table III-C Investment Return III-3
Table III-D Asset Reconciliation III-4
Table III-E Historical Trust Fund Detail III-5

## Data

Table IV-A Summary of Participant Data IV-1
Table IV-B Active Participant Data IV-2
Table IV-C Active Age-Service Distribution IV-3
Table IV-D Active Age-Service-Salary Table IV-4
Table IV-E Inactive Participant Data IV-5
Table IV-F Projected Benefit Payments IV-6
Methods \& Assumptions
Table V-A Summary of Actuarial Methods and Assumptions V-1
Table V-B Changes in Actuarial Methods and Assumptions V-3

## Plan Provisions

Table VI-A Summary of Plan Provisions VI-1
Table VI-B Summary of Plan Amendments VI-7

## Introduction

This report presents the results of the July 1, 2011 actuarial valuation of the City of Atlanta Police Officers' Pension Fund. This valuation is based upon the participant data provided as of July 1, 2011 by the plan administrator and asset information provided as of June 30, 2011 by the plan auditor. Except for a cursory review for reasonableness, we have not attempted to verify the accuracy of this information.

The primary purpose of this report is to provide a summary of the funded status of the plan as of July 1, 2011 and to determine the minimum required contribution under Georgia Code Section 47-20-10 for the City's 2012/13 fiscal year. In addition, this report provides a projection of the long-term funding requirements of the plan, accounting disclosures pursuant to Governmental Accounting Standards Board Statement Nos. 25 and 27 (GASB 25/27), statistical information concerning the assets held in the trust, statistical information concerning the participant population, and a summary of any recent plan changes.

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an estimate of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table V-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, if any of the assumptions is not completely realized, then the cost shown in this report will change in the future.

Certain assumptions play a bigger role than others in determining the cost of the post-employment pension benefits. In some cases, relatively small changes in a particular assumption can have a dramatic impact on the anticipated cost of benefits. Although a thorough analysis of the impact of such changes is beyond the scope of this report, Table I-B illustrates the impact that alternative long-term investment returns would have on the minimum required contribution rate.

## Minimum Required Contribution

Table 1-A shows the development of the minimum required contribution for the City's 2012/13 fiscal year. The minimum required contribution rate is $34.61 \%$ of covered payroll, which represents a decrease of $5.00 \%$ of payroll from the prior valuation.

Table I-C provides a breakdown of the sources of change in the contribution rate. Significantly, the rate decreased by $0.90 \%$ of payroll due to investment gains and decreased by another $4.10 \%$ due to demographic experience. The market value of assets earned an annualized return of $11.03 \%$ during the 2011 short plan year, whereas a $7.75 \%$
annual investment return is required to maintain a stable contribution rate. The demographic gain occurred primarily because salaries did not increase at the expected rate.

Georgia Code Section 47-20-10 sets forth many of the rules concerning the minimum required contribution for public pension plans within the state. Essentially, the City will meet the minimum funding requirement if the employer contributions are at least equal to the annual required contribution under GASB 25/27. In addition, Georgia Code Section 47-20-13 exempts public plan sponsors from the minimum funding requirements if the plan's actuarial value of assets exceeds $150 \%$ of the present value of accumulated retirement system benefits.

Based on the current assets, participant data, and actuarial assumptions and methods that are used to value the plan, the present-day value of the total long-term funding requirement is $\$ 1,170,194,032$. As illustrated in Table I-A, current assets are sufficient to cover $\$ 735,470,000$ of this amount, the employer's expected contribution for the 2011/12 plan year will cover $\$ 29,187,856$ of this amount, the employer's expected contribution for the 2012/13 plan year will cover $\$ 26,526,124$ of this amount, and future employee contributions will cover $\$ 69,870,945$ of this amount, leaving $\$ 309,139,107$ to be covered by future employer funding. Again, demographic and investment experience that differs from that assumed will either increase or decrease the future employer funding requirement.

## Contents of the Report

Tables I-D through I-G provide a detailed breakdown of various liability amounts by type of benefit and by participant group. Tables II-A through II-C provide information needed by both the plan's and the employer's accountants in order to prepare the relevant financial statements that cover the period July 1, 2011 through June 30, 2013. Tables III-A through III-F provide information concerning the assets of the trust fund. Specifically, Table III-A shows the development of the actuarial value of assets, which is based on the market value. Tables IV-A through IV-F provide statistical information concerning the plan's participant population. In particular, Table IV-F gives a 10-year projection of the cash that is expected to be required from the trust fund in order to pay benefits to the current group of participants. Finally, Tables V-A through VI-B provide a summary of the actuarial assumptions and methods that are used to value the plan's benefits and of the relevant plan provisions as of July 1, 2011, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

## Plan Year Change

Since the previous valuation report was prepared, plan year has been changed from the 12 -month period following each January 1 to the 12 -month period following each July 1 . This change was made to bring the plan's fiscal year in line with the City's fiscal year. There was a short plan year for the period January 1, 2011 through June 30, 2011. This change had no actuarial impact on the plan's cost.

## Certification

This actuarial valuation was prepared by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate and, in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Georgia Code Section 47-20-10. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material change in plan costs or required contribution rates have been taken into account in the valuation.

For the firm,
Charles Carr/yx

Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.
Enrolled Actuary No. 11-04927

The individual above is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

## Minimum Required Contribution



For the 2012/13 Fiscal Year

| Entry Age Normal Cost for the 2011/12 Plan Year | $\$ 18,271,287$ |
| ---: | ---: |
| Unfunded Liability Amortization Payment for the 2011/12 Plan Year | $\$ 15,981,296$ |
| Expense Allowance for the 2011/12 Plan Year | $\$ 368,441$ |
| Expected Employee Contribution for the 2011/12 Plan Year | $(\$ 8,916,260)$ |
| Adjustment to Reflect Semi-Monthly Employer Contributions | $\$ 1,012,807$ |

Expected Employer Contribution for the 2011/12 Plan Year Remaining Contribution Due/(Credit) for the 2011/12 Plan Year $(\$ 29,187,856)$ (\$2,470,285) One Year's Interest Charge/(Credit) on the Remaining Contribution Preliminary Employer Contribution for the 2012/13 Fiscal Year
\$26,526,124
Expected Payroll for the 2012/13 Fiscal Year $\div \$ 76,635,624$

Minimum Required Contribution Rate
(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the fiscal year.)

## Additional Disclosures

Present Value of Future Compensation
\$577,281,813
Present Value of Future Employer Contributions \$364,853,087
Present Value of Future Employee Contributions

## Sensitivity Analysis



The line above illustrates the sensitivity of the contribution rate to changes in the long-term investment return.

## Gain and Loss Analysis

## Source of Change in the Contribution Rate

Previous minimum required contribution rate ..... 39.61\%
Increase (decrease) due to investment gains and losses ..... -0.90\%
Increase (decrease) due to demographic experience ..... -4.10\%
Increase (decrease) due to plan amendments ..... 0.00\%
Increase (decrease) due to actuarial assumption changes ..... 0.00\%
Increase (decrease) due to actuarial method changes ..... 0.00\%
Current minimum required contribution rate ..... $34.61 \%$
Source of Change in the Unfunded Liability
Previous unfunded liability ..... \$358,572,501
Increase due to interest ..... \$13,625,755
Decrease due to amortization payments ..... (\$9,446,316)
Increase (decrease) due to plan experience ..... (\$62,220,547)
Increase (decrease) due to plan amendments ..... $\$ 0$
Increase (decrease) due to actuarial assumption changes ..... \$0
Increase (decrease) due to actuarial method changes ..... \$0
Current unfunded liability ..... \$300,531,393

## Present Value of Future Benefits

Old Assumptions w/o Amendment

Actively Employed Participants
Retirement benefits
Termination benefits
Disability benefits Death benefits
Refund of employee contributions
Sub-total

Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions
Sub-total

Due a Refund of Contributions
Deferred Beneficiaries
Retired Participants
Service retirements
Disability retirements
Beneficiaries receiving
DROP participants Sub-total

Grand Total

$$
\begin{array}{r}
\$ 433,565,969 \\
\$ 19,889,229 \\
\$ 23,351,335 \\
\$ 5,560,084 \\
\$ 1,012,368 \\
\$ 483,378,985
\end{array}
$$

## Deferred Vested Participants

\$1,397,385
\$1,397,385
\$583,000,170
\$51,964,250
\$47,566,833
\$682,531,253
$\$ 1,167,307,623$

Old Assumptions w/ Amendment

New Assumptions w/ Amendment
\$0
\$0
\$0
\$0
\$0
\$0
\$583,000,170
\$583,000,170
\$51,964,250
\$51,964,250
$\$ 0$
\$433,565,969
\$19,889,229
\$23,351,335
\$5,560,084
\$1,012,368
\$483,378,985
\$433,565,969
\$19,889,229
\$23,351,335
\$5,560,084
\$1,012,368
\$483,378,985

## Present Value of Accrued Benefits

Old Assumptions
w/o Amendment

Old Assumptions w/ Amendment

New Assumptions w/ Amendment
\$241,805,351
\$11,161,604
\$17,553,072
\$3,814,841
\$519,518
\$274,854,386
\$241,805,351
\$11,161,604
\$17,553,072 \$3,814,841 \$519,518
\$274,854,386
\$241,805,351
\$11,161,604
\$17,553,072
\$3,814,841 \$519,518
\$274,854,386
Actively Employed Participants
Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions
Sub-total

Deferred Vested Participants
Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions
Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions
Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions
Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions
Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions Sub-total

Due a Refund of Contributions

Deferred Beneficiaries
Retired Participants
Service retirements

Disability retirements
Beneficiaries receiving
DROP participants
Sub-total

Grand Total
\$1,397,385
\$0
\$0
\$0
$\$ 0$
\$1,397,385
\$0
\$0
\$583,000,170
\$51,964,250
\$47,566,833
\$0
\$682,531,253
$\$ 958,783,024$
\$1,397,385
\$1,397,385
\$0
\$0
\$0

## \$0

\$1,397,385
\$0
\$0
\$0

| $\$ 583,000,170$ | $\$ 583,000,170$ |
| ---: | ---: |
| $\$ 51,964,250$ | $\$ 51,964,250$ |
| $\$ 47,566,833$ | $\$ 47,566,833$ |
| $\$ 0$ | $\$ 0$ |
| $\$ 682,531,253$ | $\$ 682,531,253$ |

\$682,531,253
\$682,531,253

## \$958,783,024

$\$ 958,783,024$

## Present Value of Vested Benefits

## Actively Employed Participants <br> Retirement benefits Termination benefits Disability benefits Death benefits Refund of employee contributions Sub-total Deferred Vested Participants <br> Retirement benefits Termination benefits Disability benefits Death benefits Refund of employee contributions Sub-total Deferred Vested Participants <br> Retirement benefits Termination benefits Disability benefits Death benefits Refund of employee contributions Sub-total Deferred Vested Participants <br> Retirement benefits Termination benefits Disability benefits Death benefits Refund of employee contributions Sub-total Deferred Vested Participants <br> Retirement benefits Termination benefits Disability benefits Death benefits Refund of employee contributions Sub-total Deferred Vested Participants <br> Retirement benefits Termination benefits Disability benefits Death benefits Refund of employee contributions Sub-total Deferred Vested Participants <br> Retirement benefits Termination benefits Disability benefits Death benefits Refund of employee contributions Sub-total Deferred Vested Participants

Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions
Sub-total

Due a Refund of Contributions
Deferred Beneficiaries
Retired Participants
Service retirements
Disability retirements
Beneficiaries receiving
DROP participants Sub-total

Grand Total

$$
\$ 1,397,385
$$

\$1,397,385
\$583,000,170
\$51,964,250
$\$ 47,566,833$
\$682,531,253
\$936,696,227
Old Assumptions
w/o Amendment
$\$ 219,971,940$
$\$ 9,932,977$
$\$ 17,553,072$
$\$ 3,777,036$
$\$ 1,532,564$
$\$ 252,767,589$

Old Assumptions w/ Amendment
\$0
\$0
\$0
\$0
\$0
\$0

$$
\$ 583,000,170
$$

\$0
\$219,971,940 \$219,971,940 \$9,932,977
\$17,553,072 \$3,777,036
\$1,532,564
\$252,767,589

## Entry Age Normal Accrued Liability

Old Assumptions w/o Amendment
Actively Employed Participants
Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions
Sub-total
Deferred Vested Participants

Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions Sub-total

Due a Refund of Contributions
Deferred Beneficiaries

| Retired Participants |
| ---: |
| Service retirements |
| Disability retirements |
| Beneficiaries receiving |
| DROP participants |
| Sub-total |
| Grand Total |
| less Actuarial Value of Assets |
| Unfunded Accrued Liability |

Unfunded Accrued Liability

\$1,397,385
\$0
\$0
\$0
\$0
\$1,397,385
\$0
\$0
\$583,000,170
\$51,964,250
\$47,566,833
\$0
\$682,531,253
\$1,036,001,393
(\$735,470,000)
$\$ 300,531,393$

Old Assumptions w/ Amendment

New Assumptions w/ Amendment

## Entry Age Normal Cost

Old Assumptions
w/o Amendment

Old Assumptions w/ Amendment

New Assumptions w/ Amendment

## Actively Employed Participants <br> Retirement benefits <br> Termination benefits <br> Disability benefits <br> Death benefits <br> Refund of employee contributions Sub-total <br> Deferred Vested Participants

Retirement benefits
Termination benefits
Disability benefits
Death benefits
Refund of employee contributions Sub-total

Due a Refund of Contributions

Deferred Beneficiaries
Retired Participants
Service retirements
Disability retirements
Beneficiaries receiving
DROP participants
Sub-total

Grand Total

\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
$\$ 18,271,287$

| $\$ 15,055,447$ | $\$ 15,055,447$ |
| ---: | ---: |
| $\$ 1,151,484$ | $\$ 1,151,484$ |
| $\$ 1,565,739$ | $\$ 1,565,739$ |
| $\$ 235,027$ | $\$ 235,027$ |
| $\$ 263,590$ | $\$ 263,590$ |
| $\mathbf{\$ 1 8 , 2 7 1 , 2 8 7}$ | $\$ 18,271,287$ |

\$0

## \$0

\$0
\$0

## \$0

\$0
\$0
\$0
\$0
\$0 \$0
\$0
\$0
\$0
$\$ 18,271,287$

## GASB 25/27 Results

## Development of the Net Pension Obligation (Asset)

| Net Pension Obligation (Asset) as of July 1, 2010 | $\$ 0$ |
| ---: | ---: |
| Annual Pension Cost for the 2010/11 Plan Year | $\$ 39,135,000$ |
| Employer Contributions for the 2010/11 Plan Year | $(\$ 39,135,000)$ |
| Net Increase (Decrease) in NPO | $\$ 0$ |
| Net Pension Obligation (Asset) as of July 1, 2011 |  |

For the 2012/13 Plan Year
Development of the Annual Required Contribution (ARC)
Employer Normal Cost Amortization of the UAAL

Expense Allowance
Amortization of the Net Pension Obligation (Asset)
Interest Adjustment
Annual Required Contribution (ARC)

Development of the Annual Pension Cost (APC)
Annual Required Contribution (ARC)
\$26,526,124
Interest on the Net Pension Obligation (Asset) \$0
Adjustment to the ARC
Annual Pension Cost (APC)
\$9,355,027
\$15,981,296
\$368,441
\$821,360
\$26,526,124
en
\$26,526,124

Schedule of Employer Contributions

| Year Ended <br> $\frac{\text { June } 30}{20}$ | Annual <br> Required <br> Contribution | $\%$ <br> Contrib. | Annual <br> Pension | Cost |
| :---: | :---: | :---: | :---: | :---: |
| 2006 | N/A | $\frac{\text { Contrib. }}{}$ |  |  |
| 2007 | $\$ 47,365,000$ | $100 \%$ | $\$ 47,365,000$ | $100 \%$ |
| 2009 | $\$ 45,730,000$ | $100 \%$ | $\$ 45,730,000$ | $100 \%$ |
| 2010 | $\$ 44,810,000$ | $100 \%$ | $\$ 44,810,000$ | $100 \%$ |
| 2011 | $\$ 41,712,000$ | $100 \%$ | $\$ 41,712,000$ | $100 \%$ |
|  | $\$ 39,135,000$ | $100 \%$ | $\$ 39,135,000$ | $100 \%$ |

## Schedule of Funding Progress

|  | (1) | (2) | (3) | (4) | (5) | (6) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Actuarial |  |  |  | UAAL |
| Actuarial | Actuarial | Accrued | Unfunded |  |  | as \% of |
| Valuation | Value of | Liability | AAL | Funded | Covered | Covered |
| Date | Assets | (AAL) | (UAAL) | Ratio | Payroll | Payroll |
|  |  |  | (2) - (1) | $(1) \div(2)$ |  | (3) $\div$ (5) |
| January 1, 2007 | N/A | \$850,886,000 | N/A | N/A | \$77,168,000 | N/A |
| January 1, 2008 | \$596,457,000 | \$909,410,000 | \$312,953,000 | 65.59\% | \$84,016,000 | 372.49\% |
| January 1, 2009 | \$571,768,000 | \$986,376,000 | \$414,608,000 | 57.97\% | \$82,030,000 | 505.43\% |
| January 1, 2010 | \$591,980,609 | \$990,600,036 | \$398,619,427 | 59.76\% | \$78,519,495 | 507.67\% |
| January 1, 2011 | \$697,667,506 | \$1,056,240,007 | \$358,572,501 | 66.05\% | \$83,550,807 | 429.17\% |
| July 1, 2011 | \$735,470,000 | \$1,036,001,393 | \$300,531,393 | 70.99\% | \$73,688,100 | 407.84\% |

# Additional Information <br> Valuation Date July 1, 2011 <br> Actuarial Cost Method Entry age normal <br> Amortization Method Level percentage, closed <br> Remaining Amortization Period 30 years <br> Asset Valuation Method Market value <br> Discount Rate 7.75\% <br> Salary Increase Rate $4.00 \%$ 

## SFAS 35 Disclosures

## Actuarial Present Value of Accrued Benefits

As of January 1, 2011
As of July 1, 2011

| Vested Benefits |  |  |
| :---: | :---: | :---: |
| Participants currently receiving benefits | \$638,948,580 | \$682,531,253 |
| Other participants | \$294,843,379 | \$254,164,974 |
| Sub-total | \$933,791,959 | \$936,696,227 |
| Non-Vested Benefits | \$25,052,043 | \$22,086,797 |
| Total Benefits | \$958,844,002 | \$958,783,024 |
| Funded Percentage | 72.76\% | 76.71\% |

Statement of Change in Actuarial Present Value of Accrued Benefits

Actuarial Present Value as of January 1, $2011 \quad \$ 958,844,002$

Increase (Decrease) Due To: Interest $\quad \$ 36,436,072$
Benefits accumulated (\$13,909,050)
Benefits paid $\quad(\$ 22,588,000)$
Plan amendments \$0
Changes in actuarial methods and assumptions
Net increase (decrease)
Actuarial Present Value as of July 1, 2011
\$958,783,024

## Actuarial Value of Assets

Market Value of Assets as of July 1, $2011 \quad \$ 735,470,000$

Minus advance employer contributions
\$0

Actuarial Value of Assets as of July 1, 2011
$\$ 735,470,000$

```
Historical Actuarial Value of Assets
January 1,2003 N/A
January 1,2004 N/A
January 1,2005 N/A
January 1,2006 N/A
January 1,2007 N/A
January 1,2008 $596,457,000
January 1,2009 $571,768,000
January 1,2010 $591,980,609
January 1,2011 $697,667,506
July 1,2011 $735,470,000
```

Market Value of Assets


Historical Market Value of Assets
January 1, 2003
N/A
January 1, 2004
January 1, 2005 N/A

January 1, 2006
N/A

January 1, 2007
N/A

January 1, 2008
January 1, 2009
January 1, 2010
January 1, 2011
July 1, 2011
N/A
\$561,226,686
\$516,308,590
\$614,490,006
\$697,667,506
$\$ 735,470,000$

Investment Return


| Plan | Market Value | Actuarial Value | Assumed |
| :---: | :---: | :---: | :---: |
| Year | Return | Return | Return |
| 2002 | N/A | N/A | N/A |
| 2003 | N/A | N/A | N/A |
| 2004 | N/A | N/A | N/A |
| 2005 | N/A | N/A | N/A |
| 2006 | N/A | N/A | N/A |
| 2007 | N/A | N/A | N/A |
| 2008 | -9.85\% | -5.92\% | 7.75\% |
| 2009 | 18.40\% | 3.02\% | 7.75\% |
| 2010 | 12.93\% | 17.21\% | 7.75\% |
| 2011 | 5.37\% | 5.37\% | 3.80\% |

## Asset Reconciliation

Market Value
\$697,667,506
\$697,667,506
Increases Due To:
Employer Contributions
Employee Contributions
Total Contributions

Interest and Dividends
Gains (Losses)
Total Investment Income
Other Income
Total Income
Decreases Due To:
Benefit Payments

Total Benefit Payments
Investment Expenses
Administrative Expenses
Advance Employer Contribution
$(\$ 22,588,000)$
(\$22,588,000)
$\$ 60,430,994$
\$61,873,494
\$37,496,994
\$0
$\begin{array}{r}\$ 33,529,994 \\ \hline \$ 38,939,494\end{array}$
$\$ 19,567,500$
\$3,366,500
$\$ 22,934,000$
\$5,409,500

$$
\begin{array}{r}
(\$ 1,442,500) \\
(\$ 40,500)
\end{array}
$$

(\$22,588,000)
(\$22,588,000)
$(\$ 40,500)$

Total Expenses
As of July 1, 2011
( $\$ 24,071,000)$
\$735,470,000
(\$22,628,500)
\$735,470,000

## Historical Trust Fund Detail

Income

| Plan <br> Year | Employer <br> Contribs. | Employee <br> Contribs. | Interest/ <br> Dividends | Gains / <br> Losses | Other <br> Income |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| 2002 | $\mathrm{~N} / \mathrm{A}$ |  |  |  |  |

## Expenses

Other Actuarial Adjustments

## Advance

Employer
Contribs.
N/A
N/A
N/A
N/A N/A
N/A N/A
N/A
N/A N/A
N/A
N/A N/A N/A
\$607,811 \$2,742,878 \$0
\$1,692,242 \$2,052,013 \$0
\$54,705 \$2,559,031 \$0
\$40,500 \$1,442,500 \$0

Note: Amounts shown for the 2011 short plan year are estimated.

Summary of Participant Data

Actively Employed ParticipantsActive Participants1,639DROP Participants 0Inactive ParticipantsDeferred Vested Participants29Due a Refund of ContributionsDeferred Beneficiaries00
Participants Receiving a Benefit
Service Retirements ..... 1,060
Disability Retirements ..... 106

- Beneficiaries Receiving ..... 235
Total Participants ..... 3,069


## Number of Participants Included in Prior Valuations

|  | Active | DROP | Inactive | Retired | Total |
| :--- | ---: | ---: | ---: | ---: | ---: |
| January $\mathbf{1 , 2 0 0 3}$ | 1,523 | 0 | 0 | 970 | 2,493 |
| January $\mathbf{1 , 2 0 0 4}$ | 1,488 | 0 | 0 | 1,013 | 2,501 |
| January $\mathbf{1 , 2 0 0 5}$ | 1,638 | 0 | 0 | 1,041 | 2,679 |
| January $\mathbf{1 , 2 0 0 6}$ | 1,775 | 0 | 0 | 1,115 | 2,890 |
| January $\mathbf{1 , 2 0 0 7}$ | 1,735 | 0 | 0 | 1,204 | 2,939 |
| January 1,2008 | 1,811 | 0 | 0 | 1,272 | 3,083 |
| January $\mathbf{1 , 2 0 0 9}$ | 1,639 | 0 | 0 | 1,355 | 2,994 |
| January 1,2010 | 1,574 | 0 | 3 | 1,293 | 2,870 |
| January $\mathbf{1 , 2 0 1 1}$ | 1,554 | 0 | 18 | 1,345 | 2,917 |
| July $\mathbf{1 , 2 0 1 1}$ | 1,639 | 0 | 29 | 1,401 | 3,069 |

## Data

## Active Participant Data

Table IV-B

## Gender Mix



II Male

- Female

As of July 1, 2011
Average Age
Average Service 10.0 years
Total Annualized Compensation for the Prior Year \$75,469,943
Total Expected Compensation for the Current Year \$73,688,100
Average Increase in Compensation for the Prior Year $\quad-4.72 \%$ Expected Increase in Compensation for the Current Year $4.00 \%$

Accumulated Contributions for Active Employees $\$ 62,301,686$

Actual vs. Expected Salary Increases

Active Participant Statistics From Prior Valuations

January 1, 2003
January 1, 2004
January 1, 2005
January 1, 2006
January 1, 2007
January 1, 2008
January 1, 2009
January 1, 2010
January 1, 2011
July 1, 2011
$\left.\begin{array}{rrrrr}\text { Average } & \text { Average } & \text { Average } & \begin{array}{r}\text { Average } \\ \text { Expected } \\ \text { Salary } \\ \text { Increase }\end{array} & \begin{array}{r}\text { Average } \\ \text { Actual } \\ \text { Salary }\end{array} \\ \text { Increase }\end{array}\right\}$

## Active Age-Service Distribution


$\triangle$ Eligible to retire
$\triangle$ May be eligible to retire
$\triangle$ Not eligible to retire

| Attained Age | Completed Years of Service |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 \& up | Total |
| Under 25 | 35 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63 |
| Avg.Pay | 12,334 | 36,773 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23,196 |
| 25 to 29 | 65 | 156 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 263 |
| Avg.Pay | 12,689 | 39,610 | 41,837 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33,312 |
| 30 to 34 | 22 | 143 | 146 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 338 |
| Avg.Pay | 9,358 | 39,639 | 43,336 | 45,859 | 0 | 0 | 0 | 0 | 0 | 0 | 39,762 |
| 35 to 39 | 10 | 48 | 91 | 72 | 12 | 0 | 0 | 0 | 0 | 0 | 233 |
| Avg.Pay | 7,095 | 40,272 | 44,035 | 49,709 | 55,264 | 0 | 0 | 0 | 0 | 0 | 44,006 |
| 40 to 44 | 7 | 36 | 48 | 90 | 105 | 23 | 0 | 0 | 0 | 0 | 309 |
| Avg.Pay | 14,638 | 40,223 | 44,539 | 50,940 | 57,849 | 61,859 | 0 | 0 | 0 | 0 | 51,035 |
| 45 to 49 | 4 | 18 | 23 | 23 | 49 | 133 | 30 | 0 | 0 | 0 | 280 |
| Avg.Pay | 17,989 | 43,614 | 44,739 | 51,681 | 56,499 | 63,945 | 66,963 | 0 | 0 | 0 | 58,417 |
| 50 to 54 | 0 | 7 | 4 | 11 | 9 | 53 | 45 | 1 | 0 | 0 | 130 |
| Avg.Pay | 0 | 41,899 | 45,460 | 48,894 | 56,733 | 63,342 | 69,318 | 78,670 | 0 | 0 | 62,144 |
| 55 to 59 | 0 | 1 | 0 | 4 | 3 | 6 | 3 | 2 | 0 | 0 | 19 |
| Avg.Pay | 0 | 30,717 | 0 | 48,098 | 56,973 | 60,870 | 67,489 | 76,587 | 0 | 0 | 58,678 |
| 60 to 64 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 |
| Avg.Pay | 0 | 39,770 | 0 | 0 | 60,167 | 0 | 64,452 | 0 | 0 | 0 | 54,796 |
| 65 \& up | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Avg.Pay | 0 | 0 | 0 | 0 | 0 | 69,950 | 0 | 0 | 0 | 0 | 69,950 |
| Total | 143 | 438 | 354 | 227 | 179 | 216 | 79 | 3 | 0 | 0 | 1,639 |
| Avg.Pay | 11,942 | 39,742 | 43,616 | 49,871 | 57,248 | 63,517 | 68,293 | 77,281 | 0 | 0 | 46,046 |

Inactive Participant Data

Average Monthly Benefit

| Service Retirements | $\$ 3,187.41$ |
| ---: | ---: |
| Disability Retirements | $\$ 2,741.22$ |
| Beneficiaries Receiving | $\$ 1,515.42$ |
| DROP Participants | Not applicable |

Deferred Vested Participants
Deferred Beneficiaries
$\$ 721.79$
Not applicable

Projected Benefit Payments


Actual
For the period January 1, 2011 through June 30, 2011
\$22,588,000

## Projected

For the period July 1, 2011 through June 30, 2012
\$48,993,446
For the period July 1, 2012 through June 30, 2013
For the period July 1, 2013 through June 30, 2014
For the period July 1, 2014 through June 30, 2015
For the period July 1, 2015 through June 30, 2016
For the period July 1, 2016 through June 30, 2017
For the period July 1, 2017 through June 30, 2018
For the period July 1, 2018 through June 30, 2019
For the period July 1, 2019 through June 30, 2020
For the period July 1, 2020 through June 30, 2021
\$51,085,054
\$53,424,760
\$56,084,705
\$58,050,407
\$61,679,237
\$65,206,199
\$69,295,565
\$72,978,357
\$77,016,452

## Summary of Actuarial Methods and Assumptions

## 1. Actuarial Cost Method

Individual entry age normal cost method. Under this actuarial cost method, a level funding cost is developed with respect to each benefit for each participant. The level funding cost for each benefit applies to the period beginning when the participant's service commences and ending when the participant is assumed to cease active participation due to each respective decrement. The actuarial accrued liability is equal to the accumulated level funding cost to the valuation date for all participants. The normal cost is equal to the level funding cost for the year immediately following the valuation date for all active participants.
2. Asset Method

The actuarial value of assets is equal to the market value of assets.

## 3. Interest (or Discount) Rate

7.75\% per annum

## 4. Salary Increases

Plan compensation is assumed to increase at the rate of $4.00 \%$ per annum, unless actual plan compensation is known for a prior plan year.
5. Decrements

- Pre-retirement mortality: Sex-distinct rates set forth in the RP-2000 Mortality Table for non-annuitants, projected to 2007 by Scale AA, as published by the IRS for purposes of IRC section 430 ; deaths prior to retirement are assumed not to be serviceconnected.
- Post-retirement mortality: Sex-distinct rates set forth in the RP-2000 Mortality Table for annuitants, projected to 2007 by Scale AA, as published by the IRS for purposes of IRC section 430
- Disability: Sex-distinct rates set forth in the Wyatt 1985 Disability Study (Class 4); 75\% of disabilities are assumed to be service-connected.
- Termination: Withdrawal rates were derived from a study of actual plan experience covering the period 1982 through 1986. A sample of the withdrawal rates is set forth in the following table:

| $\frac{\text { Age }}{20}$ | $\frac{\text { Rate }}{15.0 \%}$ | $\frac{\text { Age }}{30}$ | $\frac{\text { Rate }}{7.8 \%}$ | $\frac{\text { Age }}{40}$ | $\frac{\text { Rate }}{2.30 \%}$ | $\frac{\text { Age }}{50}$ | $\frac{\text { Rate }}{0.956 \%}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | $11.4 \%$ | 35 | $4.9 \%$ | 45 | $1.35 \%$ | 55 | $0.000 \%$ |

- Retirement:

Retirement is assumed to occur at normal retirement age.

## 6. Unused Vacation

All participants are assumed to have accumulated 30 days of unused vacation upon termination of employment, retirement, or death.
7. Payroll Increase and Amortization Period

Total payroll has been assumed to grow at the rate of $4.00 \%$ per year for purposes of amortizing the unfunded actuarial accrued liability as a level percentage of payroll; the amortization period is established by City ordinance as a closed 30-year period beginning July 1, 2011.
8. Expenses

Administrative expenses are assumed to be $0.50 \%$ of future payroll. In addition, the interest rate set forth in item 3. above is assumed to be net of investment expenses and commissions.
9. Cost-of-Living Adjustment

We have assumed that all eligible retirees will receive an automatic cost-of-living adjustment equal to $3.00 \%$ per annum.

## 10. Surviving Beneficiaries

Those active participants who are making the additional $1 \%$ employee contribution to provide a survivor benefit to their eligible beneficiaries are assumed to have only one surviving beneficiary of the opposite gender of the employee. Males are assumed to be three years older than females for this purpose.

## Changes in Actuarial Methods and Assumptions

Table V-B

No methods or assumptions have been changed from those used to complete the previous valuation.

## Summary of Plan Provisions

## 1. Monthly Accrued Benefit

For participants who are hired after June 30, 2010:
$2 \%$ of Average Monthly Earnings multiplied by up to 50 years of Creditable Service
For participants who are hired after June 30, 2010:
$3 \%$ of Average Monthly Earnings multiplied by up to 26.667 years of Creditable Service

## 2. Normal Retirement Age and Benefit

- Age

Any age with at least 30 years of Creditable Service (only for participants covered by the ' 05 Amendment); or
Age 55 with at least 10 years of Creditable Service (15 years of Creditable Service for participants who are hired after June 30, 2010); or
Age 65 with at least 5 years of Creditable Service

- Amount

Monthly Accrued Benefit

- Form of Payment

Life annuity (for those participants without an eligible beneficiary); or
$75 \%$ joint and contingent annuity (for those participants with an eligible beneficiary; benefits continue in equal shares to the participant's dependent children upon the death of the participant's spouse or domestic partner or, for participants not covered by the ' 86 Amendment, upon the remarriage of the participant's spouse or domestic partner)

Note: All annuity forms of payment include an automatic cost-of-living adjustment effective each January 1 based on the increase in the Consumer Price Index as of the preceding November 1 and limited to $3 \%$. All annuity forms of payment also provide a minimum payout equal to the employee's accumulated contributions, with interest credited after 1985 at the rate of $5 \%$ per year (or less than $5 \%$ with respect to any year during which the trust fund earns less than $5 \%$ on its investments).

# Summary of Plan Provisions 

## 3. Early Retirement Age and Benefit

- Age

Any age with at least 10 years of Creditable Service (15 years of Creditable Service for participants who are hired after June 30, 2010)

- Amount

Monthly Accrued Benefit (payable at age 55); or
Monthly Accrued Benefit reduced by $1 / 2 \%$ for each of the first 60 months and by $1 / 4 \%$ for each additional month by which the participant's Early Retirement Age precedes age 55 (payable at Early Retirement Age); or
Monthly Accrued Benefit reduced by $1 / 4 \%$ for each month by which the participant's Early Retirement Age precedes age 55 (payable at Early Retirement Age and only applicable if the participant was hired prior to April 1, 1978 and has earned at least 25 years of Creditable Service)

- Form of Payment

Same as for Normal Retirement

## 4. Delayed Retirement Age and Benefit

- Age

After Normal Retirement Age

- Amount

Monthly Accrued Benefit

- Form of Payment

Same as for Normal Retirement

## 5. Disability Retirement Eligibility and Benefit

## - Eligibility

All active participants are eligible if the disability is service-connected;
At least five years of Creditable Service is required otherwise.

- Condition

The participant must become "totally and permanently disabled" and must remain so disabled until age 55. "Totally and permanently disabled" means the participant is in a continuous state of incapacity due to illness or injury, is prevented from performing his regular assigned or comparable duties during the first 12 months of his disability, and is thereafter prevented from engaging in any occupation for which he is or becomes reasonably qualified by education, training, or experience. With respect to participants who are not covered by the ' 86 Amendment, the participant must only be prevented from performing his regular assigned or comparable duties during the entire period of his disability.

## Summary of Plan Provisions

## Disability Retirement Eligibility and Benefit (continued)

## - Amount

For participants who incur a catastrophic injury in the line of duty:
$100 \%$ of the top salary for the grade and position occupied by the participant at the time of disability
For all other participants who are covered by the ' 86 Amendment:
Greater of $50 \%$ of Average Monthly Earnings at the time of disability or Monthly Accrued Benefit, offset by worker's compensation payments such that the combination of payments does not exceed $75 \%$ of the participant's salary at the time of disability (payable until the earlier of recovery from disability or age 55); and
Monthly Accrued Benefit based on Average Monthly Earnings at the time of disability and Creditable Service including the period during which the participant was disabled, but excluding any cost-of-living adjustments that were previously applied to the participant's disability payments (payable at age 55)
For all other participants with a service-connected disability:
Greater of $70 \%$ of the top salary for the grade and position occupied by the participant at the time of disability or Monthly Accrued Benefit, offset by worker's compensation payments such that the combination of payments does not exceed $100 \%$ of the participant's salary at the time of disability
For all other participants:
Monthly Accrued Benefit, offset by worker's compensation payments such that the combination of payments does not exceed $100 \%$ of the participant's salary at the time of disability

- Form of Payment

Same as for Normal Retirement

## 6. Deferred Vested Benefit

- Age

Any age with at least five years of Creditable Service (15 years of Creditable Service for participants who are hired after June 30, 2010)

- Amount

Monthly Accrued Benefit multiplied by the participant's Vested Percentage and payable at age 60

- Form of Payment

Same as for Normal Retirement

## Summary of Plan Provisions

## 7. Pre-Retirement Death Benefit

For participants who die in the line of duty and who are covered by the ' 86 Amendment:
$100 \%$ of the participant's base salary at the time of his death, offset by worker's compensation or other payments received for line of duty injuries prior to the participant's death (payable for the first two years after the participant's death); and
$75 \%$ of the Monthly Accrued Benefit (payable thereafter)
For all other participants who die in the line of duty:
$100 \%$ of the participant's base salary at the time of his death, offset by worker's compensation or other payments received for line of duty injuries prior to the participant's death (payable for the first two years after the participant's death); and
$75 \%$ of the greater of: (a) the Monthly Accrued Benefit, or (b) $70 \%$ of the top salary for the grade and position occupied by the participant at his death (payable thereafter)

For all other participants:
75\% of the Monthly Accrued Benefit

## 8. Vested Percentage

Retirement benefits with respect to those participants who are hired prior to July 1, 2010 become vested in accordance with the following schedule:

| Years of Creditable Service | Vested <br> Percentage |
| :---: | :---: |
| Less than five | $0 \%$ |
| At least five, but less than six | $25 \%$ |
| At least six, but less than seven | $30 \%$ |
| At least seven, but less than eight | $35 \%$ |
| At least eight, but less than nine | $40 \%$ |
| At least nine, but less than 10 | $45 \%$ |
| At least 10 | $100 \%$ |

Retirement benefits with respect to those participants who are hired after June 30, 2010 become 100\% vested upon the attainment of 15 years of Creditable Service.

## Summary of Plan Provisions

## 9. Average Monthly Earnings

The participant's Average Monthly Earnings is equal to: (a) the average of the participant's Base Salary for the highest 36 consecutive months during his period of Creditable Service; plus (b) the difference between the highest and lowest daily rate of pay during such 36-month period multiplied by the days of unused sick leave and divided by 36 ; plus (c) a credit based on accumulated unused vacation.
10. Base Salary

The employee's basic salary excluding overtime pay and other special compensation; pursuant to IRC section 401(a)(17), total annual plan compensation is limited to $\$ 200,000$ as indexed.

## 11. Employee Contribution

All participating employees must make the required pre-tax contribution to the plan. The required contribution is $13 \%$ of basic salary ( $8 \%$ prior to November 1, 2011) for those participants who have an eligible beneficiary for death benefits and $12 \%$ of basic salary ( $7 \%$ prior to November 1, 2011) for all other participants. An eligible beneficiary is the participant's legal spouse, registered domestic partner, or unmarried child under the age of 18 (or under age 23 if a full-time student). The participant must have been married or registered to his legal spouse or domestic partner for at least one year prior to his death in order for such individual to be an eligible beneficiary. (During the period March, 1994 through June, 2009, the required contribution was $1 \%$ lower for all participants; prior to March, 1994, the contribution was made on an after-tax basis.)
12. Creditable Service

Creditable Service includes "base creditable service" and an "unused sick leave service credit," plus military service as required by federal law. Base creditable service is granted for all periods of full-time employment as a police officer with the City of Atlanta provided that the employee has made the required contribution for such period of service. An unused sick leave service credit is granted by dividing the participant's days of unused sick leave by the number of work days set forth in the following chart:

| Years of Base Creditable Service | Work Days |
| :---: | :---: |
| Less than five | 239 |
| At least five, but less than 10 | 236 |
| At least 10, but less than 15 | 233 |
| At least 15, but less than 20 | 230 |
| At least 20 | 226 |

## Summary of Plan Provisions

## Creditable Service (continued)

Creditable Service also includes other service with the City of Atlanta if the relevant contributions are transferred into this plan and may include prior service with the State of Georgia, Fulton County, Dekalb County, or as a teacher in a public school system or private college or university within the State of Georgia if the required contribution is made to the plan.
13. Participation Requirement

All full-time police officers employed by the City of Atlanta are eligible to participate in the plan.
14. Plan Effective Date

April 1, 1978

## Summary of Plan Amendments

No significant plan amendments were adopted since the previous valuation was completed.

