City of Atlanta
Police Officers' Pension Fund

Actuarial Valuation
As of July 1, 2017

Determines the Contribution
For the 2018/19 Fiscal Year

Southern Actuarial Services

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February 26, 2018

Introduction

This report presents the results of the July 1, 2017 actuarial valuation of the City of Atlanta Police Officers' Pension Fund. This valuation is based upon the participant data provided as of July 1, 2017 by the plan administrator and asset information provided as of June 30, 2017 by the City. 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, 2017 and to determine the minimum required contribution under Georgia Code Section 47-20-10 for the City's 2018/19 fiscal year. In addition, this report provides a projection of the long-term funding requirements of the plan, 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 IV-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 I-A shows the development of the minimum required contribution for the City's 2018/19 fiscal year. The minimum required contribution rate is 33.02% of covered payroll, which represents a decrease of 1.70% 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 4.14% of payroll due to investment gains, decreased by another 0.35% of payroll due to demographic experience, and increased by 2.79% of payroll due to the assumption change that is described below. The market value of assets earned 13.43% during the 2016/17 plan year, whereas a 7.50% annual investment return was required to maintain a stable contribution 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. 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 $1,507,045,351. As illustrated in Table I-A, current assets are sufficient to cover $1,051,671,000 of this amount, the employer's expected contribution for the 2017/18 plan year will cover $31,577,012 of this amount, the employer's expected contribution for the 2018/19 plan year will cover $31,231,530 of this amount, and future employee contributions will cover $76,882,763 of this amount, leaving $315,683,046 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-F provide information concerning the assets of the trust fund. Specifically, Table II-A shows the development of the actuarial value of assets, which is based on the market value. Tables III-A through III-F provide statistical information concerning the plan's participant population. In particular, Table III-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 IV-A through V-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, 2017, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

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,

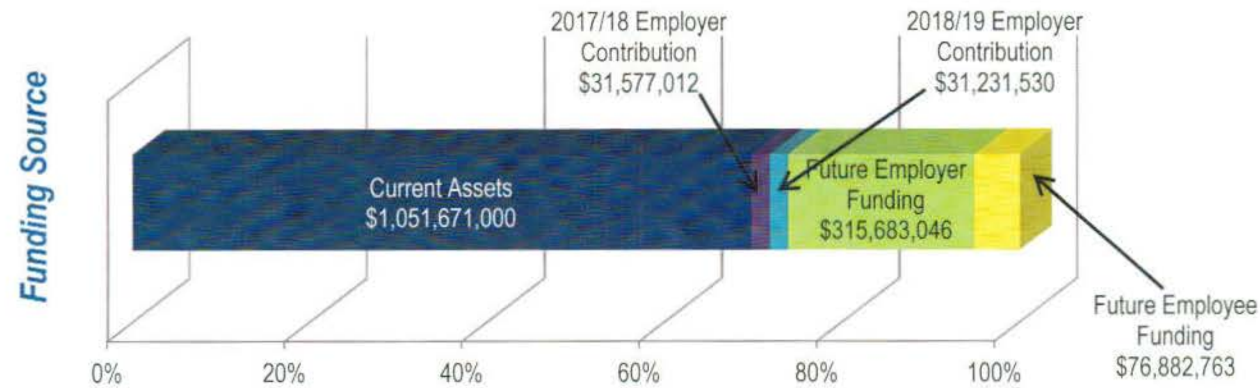
Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

Enrolled Actuary No. 17-04927

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

Table I-A



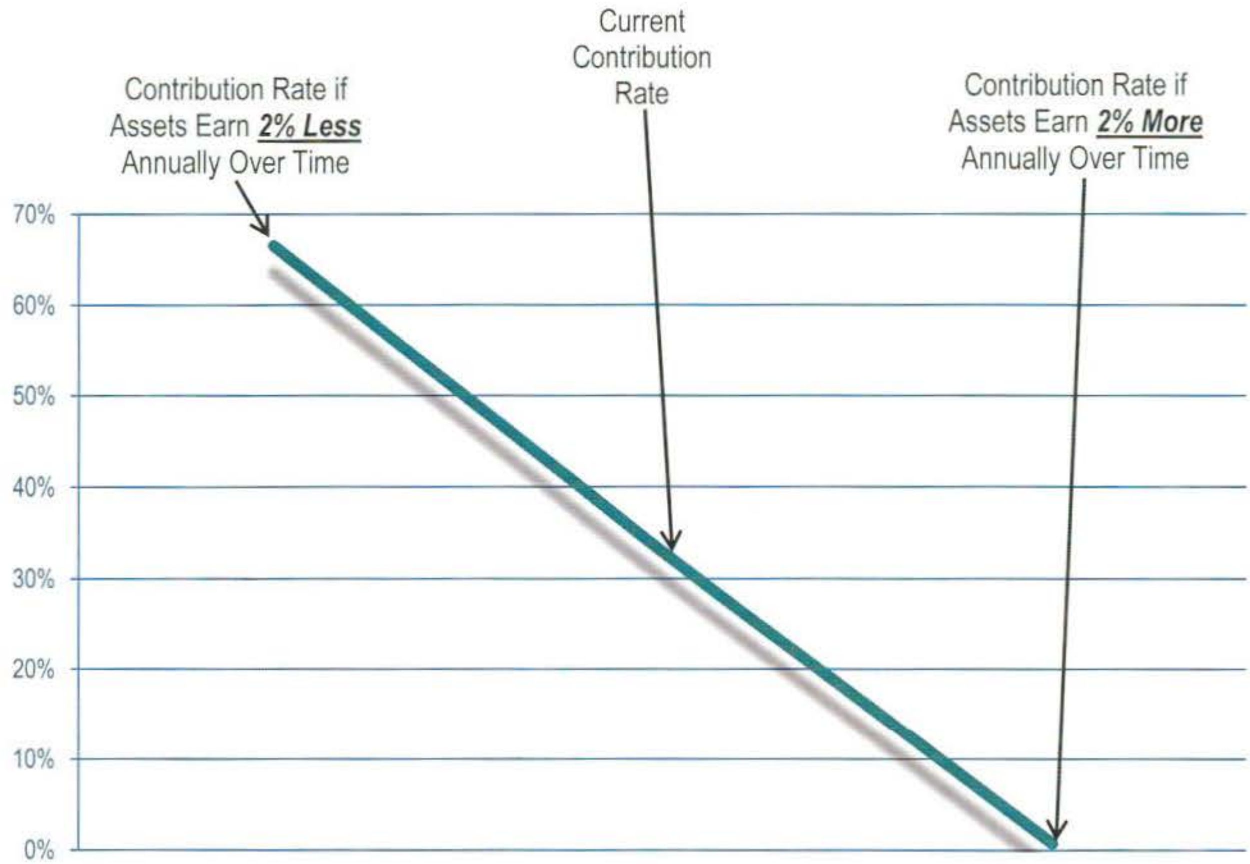
	For the 2018/19 Fiscal Year
Entry Age Normal Cost for the 2017/18 Plan Year	$20,740,524
Unfunded Liability Amortization Payment for the 2017/18 Plan Year	$18,633,810
Expense Allowance for the 2017/18 Plan Year	$682,107
Expected Employee Contribution for the 2017/18 Plan Year	($9,949,669)
Adjustment to Reflect Semi-Monthly Employer Contributions	$1,148,861
	$31,255,633
Expected Employer Contribution for the 2017/18 Plan Year	($31,577,012)
Remaining Contribution Due/(Credit) for the 2017/18 Plan Year	($321,379)
	x 0.075
One Year's Interest Charge/(Credit) on the Remaining Contribution	($24,103)
Preliminary Employer Contribution for the 2018/19 Fiscal Year	$31,231,530
Expected Payroll for the 2018/19 Fiscal Year	*÷ $94,585,519*
Minimum Required Contribution Rate	**33.02%**

(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	$703,021,019
Present Value of Future Employer Contributions	$378,491,588
Present Value of Future Employee Contributions	$76,882,763

Sensitivity Analysis

Table I-B



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

Gain and Loss Analysis

Table I-C

Source of Change in the Contribution Rate

Previous minimum required contribution rate	34.72%
Increase (decrease) due to investment gains and losses	-4.14%
Increase (decrease) due to demographic experience	-0.35%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	2.79%
Increase (decrease) due to actuarial method changes	0.00%
Current minimum required contribution rate	33.02%

Source of Change in the Unfunded Liability

Previous unfunded liability	$349,769,303
Increase due to interest	$26,232,698
Decrease due to amortization payments	($20,232,144)
Increase (decrease) due to plan experience	($69,061,689)
Increase (decrease) due to plan amendments	$0
Increase (decrease) due to actuarial assumption changes	$27,009,703
Increase (decrease) due to actuarial method changes	$0
Current unfunded liability	$313,717,871

Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$538,064,022	$538,064,022	$558,015,908
Termination benefits	$25,489,830	$25,489,830	$26,412,946
Disability benefits	$24,838,705	$24,838,705	$24,953,885
Death benefits	$9,242,661	$9,242,661	$7,556,139
Refund of employee contributions	$952,306	$952,306	$952,182
Sub-total	**$598,587,524**	**$598,587,524**	**$617,891,060**
Deferred Vested Participants			
Retirement benefits	$1,184,240	$1,184,240	$1,243,313
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$1,184,240**	**$1,184,240**	**$1,243,313**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$759,279,129	$759,279,129	$770,507,816
Disability retirements	$54,715,746	$54,715,746	$55,536,961
Beneficiaries receiving	$56,123,135	$56,123,135	$56,593,543
DROP participants	$0	$0	$0
Sub-total	**$870,118,010**	**$870,118,010**	**$882,638,320**
Grand Total	**$1,469,889,774**	**$1,469,889,774**	**$1,501,772,693**

Present Value of Accrued Benefits

Table I-E

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$335,669,106	$335,669,106	$346,864,147
Termination benefits	$15,823,800	$15,823,800	$16,325,813
Disability benefits	$17,971,686	$17,971,686	$18,051,615
Death benefits	$6,162,097	$6,162,097	$5,048,879
Refund of employee contributions	$520,139	$520,139	$520,107
Sub-total	**$376,146,828**	**$376,146,828**	**$386,810,561**
Deferred Vested Participants			
Retirement benefits	$1,184,240	$1,184,240	$1,243,313
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$1,184,240**	**$1,184,240**	**$1,243,313**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$759,279,129	$759,279,129	$770,507,816
Disability retirements	$54,715,746	$54,715,746	$55,536,961
Beneficiaries receiving	$56,123,135	$56,123,135	$56,593,543
DROP participants	$0	$0	$0
Sub-total	**$870,118,010**	**$870,118,010**	**$882,638,320**
Grand Total	**$1,247,449,078**	**$1,247,449,078**	**$1,270,692,194**
Funded Percentage	84.31%	84.31%	82.76%

(Note: Funded percentage is equal to the ratio of the usable portion of the market value of assets divided by the present value of accrued benefits.)

Present Value of Vested Benefits

Table I-F

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$311,879,446	$311,879,446	$322,199,682
Termination benefits	$14,548,438	$14,548,438	$15,037,117
Disability benefits	$17,971,686	$17,971,686	$18,051,615
Death benefits	$6,129,024	$6,129,024	$5,020,739
Refund of employee contributions	$1,754,401	$1,754,401	$1,753,750
Sub-total	**$352,282,995**	**$352,282,995**	**$362,062,903**
Deferred Vested Participants			
Retirement benefits	$1,184,240	$1,184,240	$1,243,313
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$1,184,240**	**$1,184,240**	**$1,243,313**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$759,279,129	$759,279,129	$770,507,816
Disability retirements	$54,715,746	$54,715,746	$55,536,961
Beneficiaries receiving	$56,123,135	$56,123,135	$56,593,543
DROP participants	$0	$0	$0
Sub-total	**$870,118,010**	**$870,118,010**	**$882,638,320**
Grand Total	**$1,223,585,245**	**$1,223,585,245**	**$1,245,944,536**

Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$423,942,460	$423,942,460	$438,819,352
Termination benefits	$18,591,619	$18,591,619	$19,330,536
Disability benefits	$17,033,221	$17,033,221	$17,113,179
Death benefits	$6,979,315	$6,979,315	$5,713,893
Refund of employee contributions	$530,303	$530,303	$530,278
Sub-total	**$467,076,918**	**$467,076,918**	**$481,507,238**
Deferred Vested Participants			
Retirement benefits	$1,184,240	$1,184,240	$1,243,313
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$1,184,240**	**$1,184,240**	**$1,243,313**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$759,279,129	$759,279,129	$770,507,816
Disability retirements	$54,715,746	$54,715,746	$55,536,961
Beneficiaries receiving	$56,123,135	$56,123,135	$56,593,543
DROP participants	$0	$0	$0
Sub-total	**$870,118,010**	**$870,118,010**	**$882,638,320**
Grand Total	**$1,338,379,168**	**$1,338,379,168**	**$1,365,388,871**
less Actuarial Value of Assets	*($1,051,671,000)*	*($1,051,671,000)*	*($1,051,671,000)*
Unfunded Accrued Liability	**$286,708,168**	**$286,708,168**	**$313,717,871**

Entry Age Normal Cost

Table I-H

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$16,362,791	$16,362,791	$17,016,556
Termination benefits	$1,460,036	$1,460,036	$1,493,001
Disability benefits	$1,667,805	$1,667,805	$1,674,717
Death benefits	$386,346	$386,346	$318,185
Refund of employee contributions	$238,116	$238,116	$238,065
Sub-total	**$20,115,094**	**$20,115,094**	**$20,740,524**
Deferred Vested Participants			
Retirement benefits	$0	$0	$0
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$0	$0	$0
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$0**	**$0**	**$0**
Grand Total	**$20,115,094**	**$20,115,094**	**$20,740,524**

Actuarial Value of Assets

Table II-A

Market Value of Assets as of July 1, 2017	$1,051,671,000
Minus advance employer contributions	$0
Actuarial Value of Assets as of July 1, 2017	**$1,051,671,000**

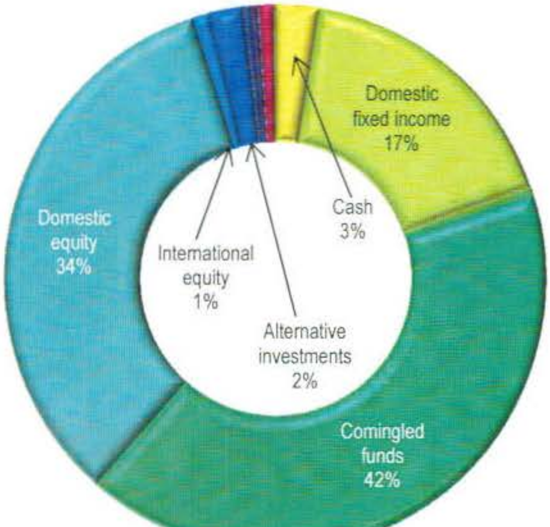
Historical Actuarial Value of Assets

January 1, 2009	$571,768,000
January 1, 2010	$591,980,609
January 1, 2011	$697,667,506
July 1, 2011	$735,470,000
July 1, 2012	$733,546,000
July 1, 2013	$828,815,000
July 1, 2014	$987,507,000
July 1, 2015	$983,385,000
July 1, 2016	$950,415,000
July 1, 2017	$1,051,671,000

Market Value of Assets

Table II-B

	As of July 1, 2017
Market Value of Assets	**$1,051,671,000**
Cash	$27,814,000
Domestic fixed income	$181,856,000
International fixed income	$4,050,000
Comingled funds	$444,243,000
Domestic equity	$358,608,000
International equity	$11,548,000
Alternative investments	$21,707,000
Real estate	$5,011,000
Income receivable	$4,166,000
Employer contribution receivable	$1,425,000
Employee contribution receivable	$411,000
Net due to brokers	($8,378,000)
Net accounts payable	($790,000)



Historical Market Value of Assets	
January 1, 2009	$516,308,590
January 1, 2010	$614,490,006
January 1, 2011	$697,667,506
July 1, 2011	$735,470,000
July 1, 2012	$733,546,000
July 1, 2013	$828,815,000
July 1, 2014	$987,507,000
July 1, 2015	$983,385,000
July 1, 2016	$950,415,000
July 1, 2017	$1,051,671,000

Investment Return

Table II-C

Annual Investment Returns

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
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%
2011/12	0.51%	0.51%	7.75%
2012/13	15.03%	15.03%	7.75%
2013/14	20.81%	20.81%	7.50%
2014/15	0.89%	0.89%	7.50%
2015/16	-1.03%	-1.03%	7.50%
2016/17	13.43%	13.43%	7.50%
9.5yr. Avg.	7.62%	6.95%	7.64%

Asset Reconciliation

Table II-D

	Market Value	Actuarial Value
As of July 1, 2016	**$950,415,000**	**$950,415,000**
Increases Due To:		
Employer Contributions	$27,493,000	$27,493,000
Employee Contributions	$10,830,000	$10,830,000
Total Contributions	$38,323,000	$38,323,000
Interest and Dividends	$13,378,000	
Gains (Losses)	$116,211,000	
Total Investment Income	$129,589,000	$125,938,000
Other Income	$0	
Total Income	**$167,912,000**	**$164,261,000**
Decreases Due To:		
Benefit Payments	($62,484,000)	($62,484,000)
Total Benefit Payments	($62,484,000)	($62,484,000)
Investment Expenses	($3,651,000)	
Administrative Expenses	($521,000)	($521,000)
Advance Employer Contribution		$0
Total Expenses	**($66,656,000)**	**($63,005,000)**
As of July 1, 2017	**$1,051,671,000**	**$1,051,671,000**

Historical Trust Fund Detail

Table II-E

Income

Plan Year	Employer Contribs.	Employee Contribs.	Interest / Dividends	Gains / Losses	Other Income
2008	$44,433,944	$5,632,058	$19,659,840	-$73,068,655	$306,310
2009	$41,213,384	$7,428,867	$10,062,495	$86,832,237	$412,899
2010	$40,422,017	$6,522,505	$10,973,135	$71,141,601	$110,624
2011	$19,567,500	$3,366,500	$5,409,500	$33,529,994	$0
2011/12	$33,748,000	$9,541,000	$13,407,000	-$6,450,000	$12,000
2012/13	$26,525,000	$11,157,000	$15,319,000	$96,713,000	$0
2013/14	$30,197,000	$11,232,000	$18,045,000	$156,987,000	$3,000
2014/15	$32,693,000	$11,224,000	$17,346,000	-$5,290,000	$4,000
2015/16	$25,441,000	$11,825,000	$17,196,000	-$24,251,000	$193,000
2016/17	$27,493,000	$10,830,000	$13,378,000	$116,211,000	$0

Expenses

Plan Year	Benefit Payments	Admin. Expenses	Invest. Expenses
2008	$38,530,904	$607,811	$2,742,878
2009	$44,024,211	$1,692,242	$2,052,013
2010	$43,378,646	$54,705	$2,559,031
2011	$22,588,000	$40,500	$1,442,500
2011/12	$48,746,000	$192,000	$3,244,000
2012/13	$51,299,000	$327,000	$2,819,000
2013/14	$53,279,000	$653,000	$3,840,000
2014/15	$56,253,000	$524,000	$3,322,000
2015/16	$59,823,000	$429,000	$3,122,000
2016/17	$62,484,000	$521,000	$3,651,000

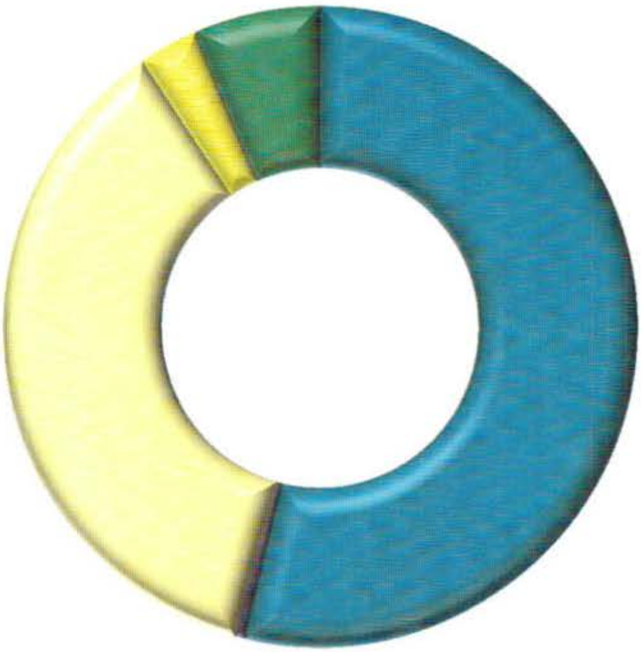
Other Actuarial Adjustments

Plan Year	Advance Employer Contribs.
2008	$0
2009	$0
2010	$0
2011	$0
2011/12	$0
2012/13	$0
2013/14	$0
2014/15	$0
2015/16	$0
2016/17	$0

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

Summary of Participant Data

Table III-A



Participant Distribution by Status

	As of July 1, 2017
Actively Employed Participants	
Active Participants	1,847
DROP Participants	0
Inactive Participants	
Deferred Vested Participants	20
Due a Refund of Contributions	0
Deferred Beneficiaries	0
Participants Receiving a Benefit	
Service Retirements	1,243
Disability Retirements	104
Beneficiaries Receiving	221
Total Participants	**3,435**

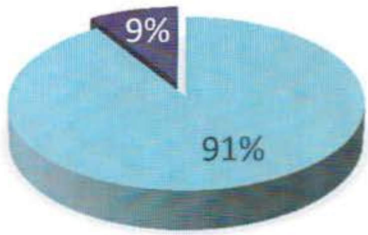
Number of Participants Included in Prior Valuations

	Active	*DROP*	*Inactive*	*Retired*	*Total*
January 1, 2009	1,639	0	0	1,355	2,994
January 1, 2010	1,574	0	3	1,293	2,870
January 1, 2011	1,554	0	18	1,345	2,917
July 1, 2011	1,639	0	29	1,401	3,069
July 1, 2012	1,870	0	29	1,402	3,301
July 1, 2013	2,021	0	30	1,405	3,456
July 1, 2014	2,025	0	35	1,420	3,480
July 1, 2015	2,023	0	55	1,446	3,524
July 1, 2016	1,962	0	13	1,510	3,485
July 1, 2017	1,847	0	20	1,568	3,435

Active Participant Data

Table III-B

Gender Mix



As of July 1, 2017

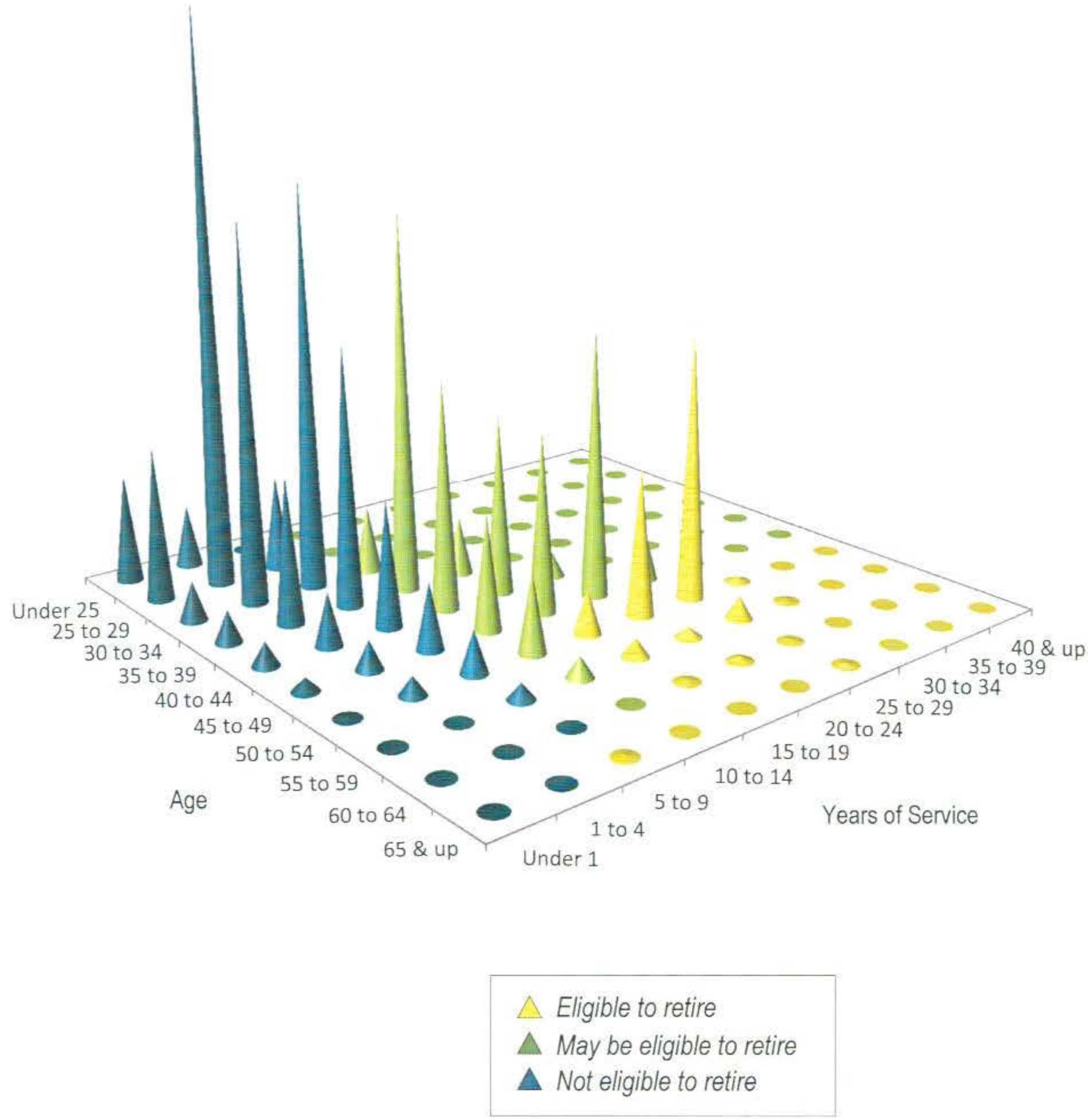
Average Age	38.4 years
Average Service	10.1 years
Total Annualized Compensation for the Prior Year	$91,328,879
Total Expected Compensation for the Current Year	$90,947,614
Average Increase in Compensation for the Prior Year	N/A
Expected Increase in Compensation for the Current Year	4.00%
Accumulated Contributions for Active Employees	$115,090,916

Active Participant Statistics From Prior Valuations

	Average Age	*Average Service*	*Average Salary*	*Average Expected Salary Increase*	*Average Actual Salary Increase*
January 1, 2009	37.9	11.0	$51,008	4.00%	3.69%
January 1, 2010	38.9	10.8	$50,854	4.00%	2.06%
January 1, 2011	39.3	11.0	$55,477	4.00%	8.14%
July 1, 2011	37.9	10.0	$46,046	1.98%	N/A
July 1, 2012	37.4	9.5	$48,806	4.00%	N/A
July 1, 2013	37.1	9.2	$45,098	4.00%	N/A
July 1, 2014	37.3	9.4	$46,295	4.00%	N/A
July 1, 2015	37.7	9.6	$46,010	4.00%	N/A
July 1, 2016	37.9	9.8	$48,709	4.00%	N/A
July 1, 2017	38.4	10.1	$49,447	4.00%	N/A

Active Age-Service Distribution

Table III-C



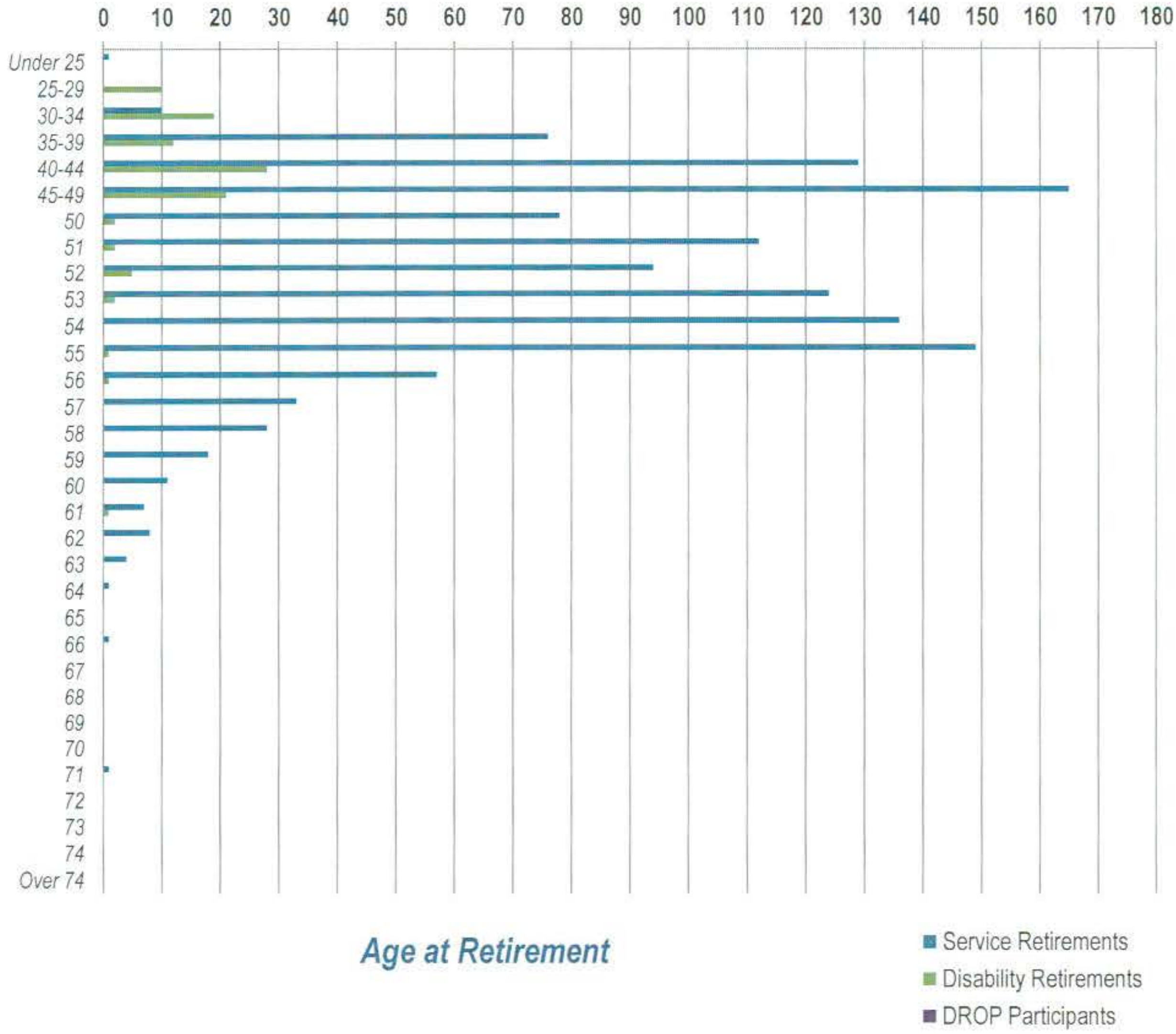
Active Age-Service-Salary Table

Table III-D

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	42	24	0	0	0	0	0	0	0	0	66
Avg.Pay	19,952	36,860	0	0	0	0	0	0	0	0	26,101
25 to 29	59	218	37	0	0	0	0	0	0	0	314
Avg.Pay	21,525	39,042	40,315	0	0	0	0	0	0	0	35,900
30 to 34	15	144	155	26	0	0	0	0	0	0	340
Avg.Pay	19,774	37,420	42,885	58,015	0	0	0	0	0	0	40,707
35 to 39	12	56	100	145	23	0	0	0	0	0	336
Avg.Pay	25,126	38,870	43,551	55,846	65,423	0	0	0	0	0	48,916
40 to 44	9	20	48	87	68	10	0	0	0	0	242
Avg.Pay	18,335	40,692	45,243	54,812	64,581	72,390	0	0	0	0	53,862
45 to 49	5	11	25	44	69	103	21	0	0	0	278
Avg.Pay	16,443	39,028	46,039	54,035	63,700	68,531	70,577	0	0	0	61,065
50 to 54	1	7	16	30	17	56	101	2	0	0	230
Avg.Pay	29,360	40,779	45,526	55,252	63,217	70,364	74,882	75,759	0	0	67,089
55 to 59	0	0	6	8	7	4	9	1	0	0	35
Avg.Pay	0	0	47,668	51,063	65,184	68,578	71,789	102,367	0	0	62,102
60 to 64	0	0	0	0	1	2	1	0	0	0	4
Avg.Pay	0	0	0	0	63,461	93,288	75,865	0	0	0	81,475
65 & up	0	0	1	0	0	0	1	0	0	0	2
Avg.Pay	0	0	44,346	0	0	0	72,276	0	0	0	58,311
Total	143	480	388	340	185	175	133	3	0	0	1,847
Avg.Pay	20,858	38,520	43,493	55,348	64,248	69,622	73,981	84,628	0	0	49,447

Inactive Participant Data

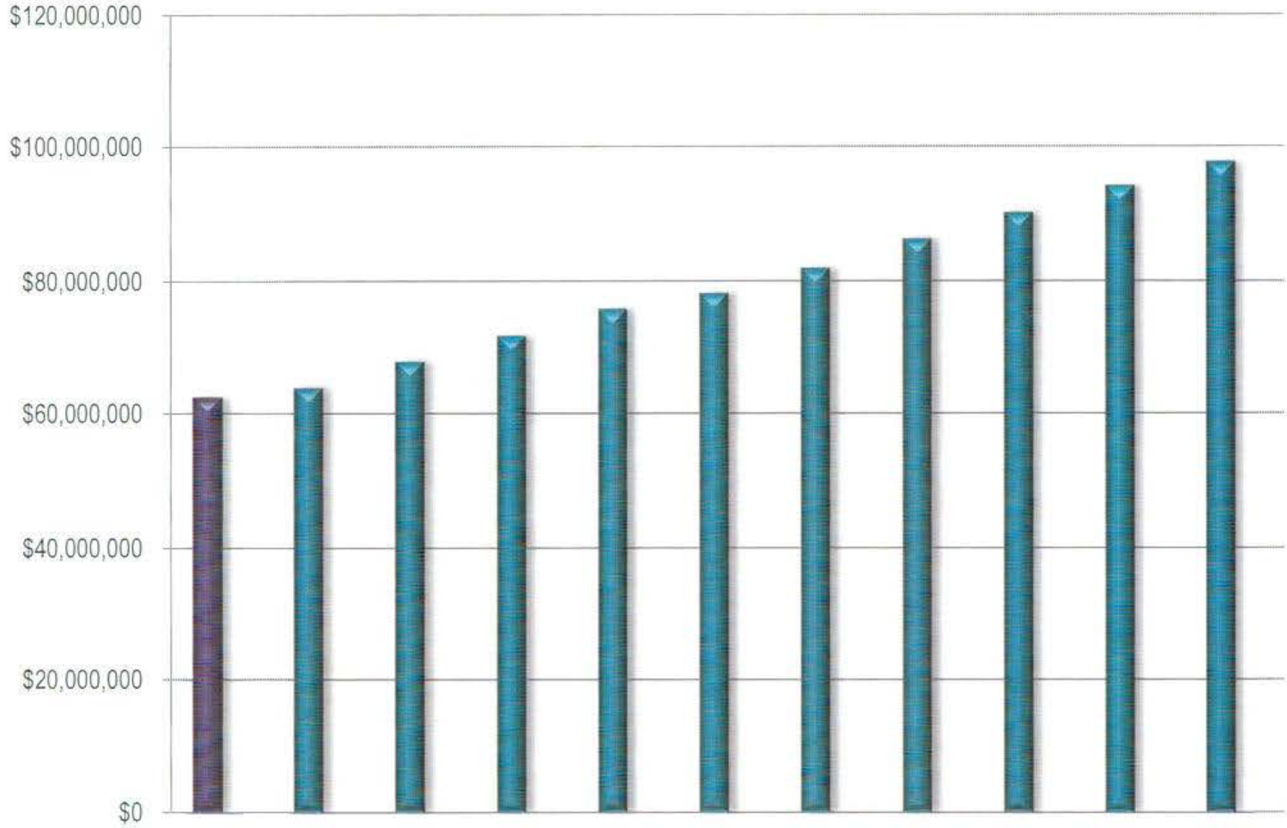
Table III-E



	Average Monthly Benefit
Service Retirements	$3,576.59
Disability Retirements	$3,099.31
Beneficiaries Receiving	$2,063.77
DROP Participants	Not applicable
Deferred Vested Participants	$691.31
Deferred Beneficiaries	Not applicable

Projected Benefit Payments

Table III-F



Actual

For the period July 1, 2016 through June 30, 2017	$62,484,000

Projected

For the period July 1, 2017 through June 30, 2018	$64,009,163
For the period July 1, 2018 through June 30, 2019	$67,998,909
For the period July 1, 2019 through June 30, 2020	$71,869,229
For the period July 1, 2020 through June 30, 2021	$75,877,783
For the period July 1, 2021 through June 30, 2022	$78,343,070
For the period July 1, 2022 through June 30, 2023	$82,032,026
For the period July 1, 2023 through June 30, 2024	$86,433,797
For the period July 1, 2024 through June 30, 2025	$90,321,492
For the period July 1, 2025 through June 30, 2026	$94,277,040
For the period July 1, 2026 through June 30, 2027	$97,707,886

Summary of Actuarial Methods and Assumptions — Table IV-A

NOTE: The following assumptions and methods have been selected and approved by the Board of Trustees based in part on the advice of the plan's enrolled actuary in accordance with the authority granted to the Board under the pension ordinances and State law.

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

7.50% 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 Blue Collar Mortality Table, with full generational improvements in mortality using Scale AA; deaths prior to retirement are assumed not to be service-connected.
• Post-retirement mortality:	Sex-distinct rates set forth in the RP-2000 Blue Collar Mortality Table, with full generational improvements in mortality using Scale AA
• Disability:	Sex-distinct rates set forth in the Wyatt 1985 Disability Study (Class 4); 75% of disabilities are assumed to be service-connected.

Summary of Actuarial Methods and Assumptions

Table IV-A

(continued)

- 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:

Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	15.0%	30	7.8%	40	2.30%	50	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 0.75% 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 IV-B

Since the previous valuation was completed, the mortality basis was changed from a 2015 projection of the RP-2000 Mortality Table to the RP-2000 Blue Collar Mortality Table with full generational improvements in mortality using Scale AA.

The following additional assumption and method changes were made during the past 10 years:

(1) Effective July 1, 2014, the administrative expense assumption was increased from 0.50% of future payroll to 0.75% of future payroll.

(2) Effective July 1, 2013, the assumed interest (or discount) rate was decreased from 7.75% per annum to 7.50% per annum.

(3) Effective July 1, 2013, the mortality basis was changed from the RP-2000 Mortality Table, projected to 2007 by Scale AA, to the RP-2000 Mortality Table, projected to 2015 by Scale AA, both as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430.

(4) Effective January 1, 2011, the actuarial value of assets was changed from the market value of assets adjusted to reflect a five-year phase-in of the net investment appreciation to the unadjusted market value.

(5) Effective January 1, 2011, the administrative expense assumption was decreased from 1.00% of future payroll to 0.50% of future payroll.

(6) Effective January 1, 2010, the assumed incidence of disability was changed from rates based on the 1974 Social Security disability study to the sex-distinct rates set forth in the Wyatt 1985 Disability Study (Class 4).

(7) Effective January 1, 2010, the assumed retirement age was changed from a range of rates at ages 45 through 60 to normal retirement age.

(8) Effective January 1, 2010, the administrative expense assumption was changed from a 1.00% loading of all costs and liabilities to 1.00% of future payroll.

Summary of Plan Provisions — Table V-A

1. **Monthly Accrued Benefit**

   For participants who are hired after August 31, 2011:
   1% of Average Monthly Earnings multiplied by up to 80 years of Creditable Service
   For participants who are hired during the period July 1, 2010 through August 31, 2011:
   2% of Average Monthly Earnings multiplied by up to 50 years of Creditable Service
   For all other participants:
   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 who are covered by the '05 Amendment)*; or
     Age 55 with at least 10 years of Creditable Service *(only for participants who are hired prior to July 1, 2010)*; or
     Age 55 with at least 15 years of Creditable Service *(only for participants who are hired prior to September 1, 2011)*; or
     Age 57 with at least 15 years of Creditable Service; 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; survivor benefits are actuarially adjusted with respect to participants who are hired after August 31, 2011)*

   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% *(limited to 1% with respect to participants who are hired after August 31, 2011)*. 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

Table V-A

(continued)

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; minimum age of 47 for participants who are hired after August 31, 2011)*

- **Amount**

  Monthly Accrued Benefit *(payable at Normal Retirement Age)*; or

  Monthly Accrued Benefit reduced by ½% for each of the first 60 months and by ¼% for each additional month by which the participant's Early Retirement Age precedes Normal Retirement Age *(payable at Early Retirement Age and applicable only to those participants who are hired prior to September 1, 2011)*; or

  Monthly Accrued Benefit reduced by ½% for each month by which the participant's Early Retirement Age precedes Normal Retirement Age *(payable at Early Retirement Age and applicable only to those participants who are hired after August 31, 2011)*; or

  Monthly Accrued Benefit reduced by ¼% 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

Summary of Plan Provisions — Table V-A

(continued)

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.

- **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 Normal Retirement Age)*; 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 Normal Retirement Age)*
  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

Summary of Plan Provisions

Table V-A

(continued)

6. Deferred Vested Benefit

- **Age**
  Any age with at least five years of Creditable Service
- **Amount**
  Monthly Accrued Benefit multiplied by the participant's Vested Percentage and payable at age 60
- **Form of Payment**
  Same as for Normal Retirement

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

Summary of Plan Provisions

Table V-A

(continued)

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 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 vested in accordance with the following schedule:

Years of Creditable Service	Vested 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, but less than 11	50%
At least 11, but less than 12	55%
At least 12, but less than 13	60%
At least 13, but less than 14	65%
At least 14, but less than 15	70%
At least 15	100%

Summary of Plan Provisions Table V-A

(continued)

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. *(The averaging period is 120 months with respect to participants who are hired after August 31, 2011 and average monthly earnings does not include unused sick leave for these participants.)*

10. Base Salary

The employee's basic salary excluding overtime pay and other special compensation; pursuant to Internal Revenue Code (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 for participants who were hired prior to 1984 is 8% of basic salary for those participants who have an eligible beneficiary and 7% of basic salary for those participants who do not have an eligible beneficiary. The required contribution for participants who were hired during the period 1984 through August 31, 2011 is 13% of basic salary (8% prior to November 1, 2011) for those participants who have an eligible beneficiary and 12% of basic salary (7% prior to November 1, 2011) for those participants who do not have an eligible beneficiary. The required contribution for participants who are hired after August 31, 2011 is 8% of basic salary. An eligible beneficiary is the participant's legal spouse, registered domestic partner, or unmarried child under the age of 18. 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.)*

Summary of Plan Provisions — Table V-A

(continued)

12. Creditable Service

Creditable Service includes "base creditable service" *(plus an "unused sick leave service credit" for those participants who were hired prior to September 1, 2011)* plus military service as required by federal law. Base creditable service is granted for all periods of full-time employment as a firefighter with the City of Atlanta provided that the employee has made the required contribution for such period of service. With respect to eligible participants, 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

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

Table V-B

No plan changes have been adopted since the previous valuation was completed.

The following additional plan amendments were adopted during the past 10 years and were reflected in prior valuation reports:

(1) Effective November 1, 2011, the employee contribution rate for participants hired during the period 1984 through August 31, 2011 was increased by 5.00% of plan compensation.

(2) With respect to participants who are hired after August 31, 2011, the benefit formula multiplier was reduced to 1.00% with a maximum benefit equal to 80% of average monthly earnings.

(3) With respect to participants who are hired after August 31, 2011, the employee contribution rate was reduced to 8.00% of plan compensation.

(4) With respect to participants who are hired after August 31, 2011, the averaging period was increased to 10 years for purposes of determining average monthly earnings.

(5) With respect to participants who are hired after August 31, 2011, the normal retirement age was increased to age 57.

(6) With respect to participants who are hired after August 31, 2011, the earliest retirement age is age 47 for those individuals who have earned less than 30 years of service.

(7) With respect to participants who are hired after August 31, 2011, the early retirement reduction was increased to 6.00% per year.

(8) With respect to participants who are hired after August 31, 2011, unused sick leave is excluded from plan compensation.

(9) With respect to participants who are hired after August 31, 2011, the automatic annual cost-of-living adjustment (COLA) was limited to 1.00% per year.

(10) With respect to participants who are hired after August 31, 2011, the normal form of payment was changed to a single life annuity with a survivor pension equal to 75% of an actuarially adjusted pension, where the actuarial adjustment is equal to the ratio on the date of death of the present value of the remaining life annuity payable to the retiree to the present value of a life annuity payable to the beneficiary.

(11) Effective July 1, 2011, the amortization period for eliminating the unfunded accrued liability was changed from an open 30-year period to a closed 30-year period.