City of Birmingham Retirement and Relief System

Actuarial Valuation and Review as of July 1, 2015

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June 6, 2016

Board of Managers
City of Birmingham Retirement and Relief System
710 North 20th Street, GA 100 City Hall
Birmingham, Alabama 35203-2216

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2015. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for the 2015-2016 fiscal year.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information on which our calculations were based was prepared by the City and the financial information was provided by the City's Finance Department. That assistance is gratefully acknowledged. Segal Consulting does not audit the data provided; the accuracy and comprehensiveness of the data is the responsibility of those supplying it. To the extent we can, however, Segal Consulting does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the smoothing of investment gains and losses); and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Deborah K. Brigham, FCA, ASA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board of Managers are reasonably related to the experience of and the expectations for the System.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

Leon F. (Rocky) Joyner, Jr., FCA, ASA, MAAA, EA	Deborah K. Brigham *Deborah K. Brigham, FCA, ASA, MAAA, EA*
Vice President and Consulting Actuary	*Vice President and Actuary*

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

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SECTION 4

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Purpose

This report has been prepared by Segal Consulting to present a valuation of the City of Birmingham Retirement and Relief System as of July 1, 2015. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board of Managers;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of July 1, 2015, provided by the City;
- The assets of the Plan as of June 30, 2015, provided by the City's Finance Department;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

The assumptions and methods used to value the Plan were approved by the Board of Managers based on a five-year experience study for the period ended June 30, 2015.

Significant Issues in Valuation Year

1. The recommended contribution for the upcoming year is $43,675,507, an increase of $842,834 from last year. The contribution as a percentage of payroll decreased from 22.39% of pay to 22.19% of pay, based on a 30-year level percent-of-pay amortization of the unfunded actuarial accrued liability.
2. Beginning July 1, 2015, both the City and members began contributing 7.00% of pay each, up from 6.50%. The combined total of 14.00% of payroll results in an annual deficit of 8.19% when compared to the recommended contribution of 22.19%. The City is ultimately responsible for Plan funding. If employee contributions remain at their current level, the City's share is 15.19% of pay.
3. The normal cost, for benefits and expenses allocated to the current year, is 11.68% of pay after adjustment for timing and is fully covered by the 14.00% ultimate contribution rate. However, the unfunded liability is not being amortized by the remaining 2.32% of pay. **The unfunded liability will continue to grow unless the contribution rates are increased, plan provisions are changed, or there are significant gains from investments or other sources.**

4. The investment rate of return on an actuarial basis for the year ended June 30, 2015 was 10.68%. Since the rate of return was greater than the assumed rate of 7.00% per year, there was an actuarial investment gain amounting to $33,971,921. The rate of return on a market basis was 4.33%. As of the valuation date, the smoothed actuarial value of assets is equal to 96.8% of market value.

5. The Schedule of Funding Progress, provided in Exhibit III of Section 4, shows that the funded ratio on an actuarial basis is 75.33% as of July 1, 2015. On a market value basis, the funded ratio is 77.81%.

6. There are numerous changes in assumptions reflected in this year's valuation. In May 2016, following the completion of a comprehensive five-year experience study by Segal Consulting, the Board approved modifications that included updating the mortality tables and reflecting generational projection for the future, adjusting the retirement, turnover and disability rates, increasing the investment return assumption, lowering the assumed inflation and salary scale, and other changes. See Exhibit V in Section 4 of this report for a complete listing. The net impact of all of these new assumptions is an increase in this year's recommended contribution of $10,897 (0.00% of pay). The actuarial funded ratio decreased by 0.18%.

7. The only plan change reflected for the first time with this valuation was the increase in the Retirement and Relief contribution rate from 6.50% to 7.00%.

8. The actuarial valuation report as of July 1, 2015 is based on financial information as of June 30, 2015. Changes in the value of assets subsequent to that date are not reflected. Unfavorable asset experience will increase the actuarial cost of the Plan, while favorable experience will decrease the actuarial cost of the Plan.

9. The disclosures required for compliance with GASB Statement No. 67, *Financial Reporting for Pension Plans*, and Statement No. 68, *Accounting and Financial Reporting for Pensions* were released to the City's Finance Department on September 18, 2015.

Summary of Key Valuation Results

	2015	2014
Contributions for plan year beginning July 1:		
Recommended	$43,675,507	$42,832,673
Recommended contribution as a percentage of payroll	22.19%	22.39%
Actual contributions (employer and employee)	--	26,692,097
Funding elements for plan year beginning July 1:		
Normal cost, including administrative expenses	$22,101,375	$23,823,180
Market value of assets	1,026,521,284	1,032,760,391
Actuarial value of assets	993,856,763	945,245,264
Actuarial accrued liability	1,319,287,541	1,263,665,128
Unfunded actuarial accrued liability	325,430,778	318,419,864
Funded ratio – Actuarial basis	75.33%	74.80%
Funded ratio – Market basis	77.81%	81.73%
Demographic data for plan year beginning July 1:		
Number of retired participants and beneficiaries	2,924	2,897
Number of vested former participants*	351	303
Number of active participants	3,871	3,889
Total payroll	$196,808,411	$191,299,778
Average payroll	50,842	49,190

**Includes future pensioners currently receiving benefits from the Supplemental System and excludes terminated participants due a refund of contributions.*

Important Information About Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal Consulting ("Segal") relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the City. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** The valuation is based on the market value of assets as of the valuation date, as provided by the City's Finance Department which uses an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the City. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If the City or Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board of Managers should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of the System, it is not a fiduciary in its capacity as actuaries and consultants with respect to the System.

A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, vested terminated participants, retired participants and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the participant population has changed over the past ten valuations can be seen in this chart.

CHART 1

Participant Population: 2006 – 2015

Year Ended June 30	Active Participants	Vested Terminated Participants*	Retired Participants and Beneficiaries	Ratio of Non-Actives to Actives
2006	3,782	204	2,255	0.65
2007	3,760	211	2,352	0.68
2008	3,782	205	2,464	0.71
2009	4,017	211	2,516	0.68
2010	4,073	232	2,555	0.68
2011	3,807	246	2,803	0.80
2012	3,907	250	2,802	0.78
2013	3,901	283	2,834	0.80
2014	3,889	303	2,897	0.82
2015	3,871	351	2,924	0.85

**Includes future pensioners currently receiving benefits from the Supplemental System and excludes terminated* participants *due a refund of employee contributions.*

Active Participants

Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 3,871 active participants with an average age of 45.3, average years of service of 12.1 years and average payroll of $50,842. The 3,889 active participants in the prior valuation had an average age of 45.0, average service of 11.9 years and average payroll of $49,190.

Inactive Participants

In this year's valuation, there were 351 participants with a vested right to a deferred or immediate vested benefit. This includes 307 individuals currently receiving benefits from the Firemen's and Policemen's Supplemental Pension System.

In addition, there were 33 participants entitled to a return of their employee contributions.

These graphs show a distribution of active participants by age and by years of service.

CHART 2

Distribution of Active Participants by Age as of June 30, 2015

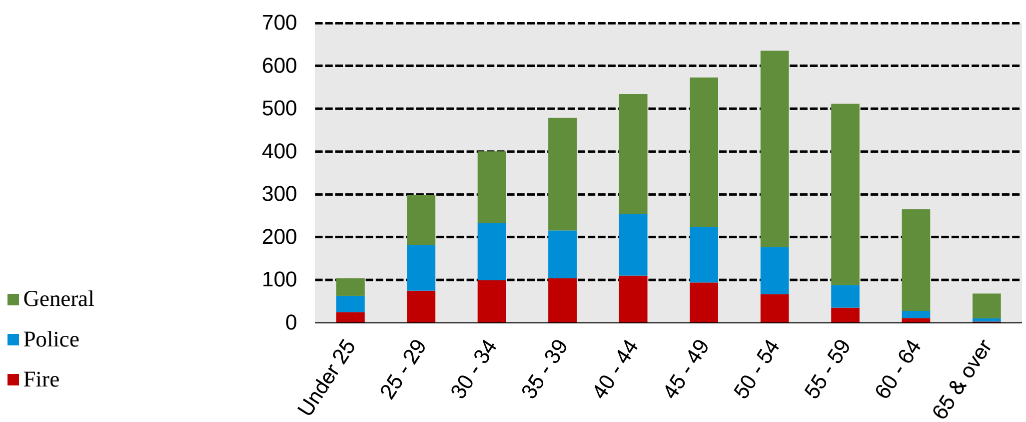
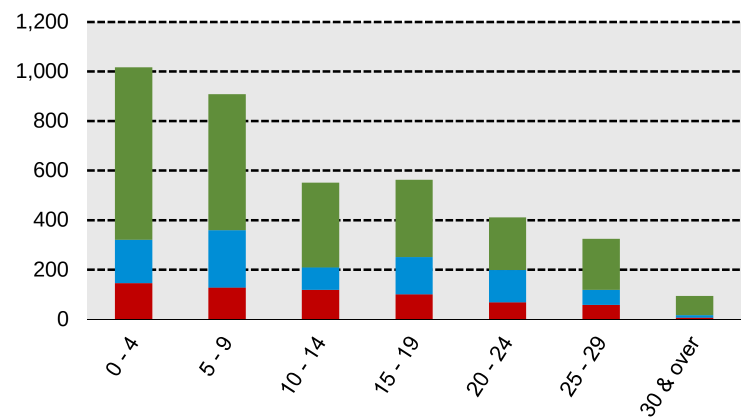


CHART 3

Distribution of Active Participants by Years of Service as of June 30, 2015



Retired Participants and Beneficiaries
As of June 30, 2015, 2,407 retired participants and 517 beneficiaries were receiving total monthly benefits of $5,989,129. For comparison, in the previous valuation, there were 2,394 retired participants and 503 beneficiaries receiving monthly benefits of $5,862,354.

These graphs show a distribution of the current retired participants and beneficiaries based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Retired Participants and Beneficiaries by Type and by Monthly Amount as of June 30, 2015

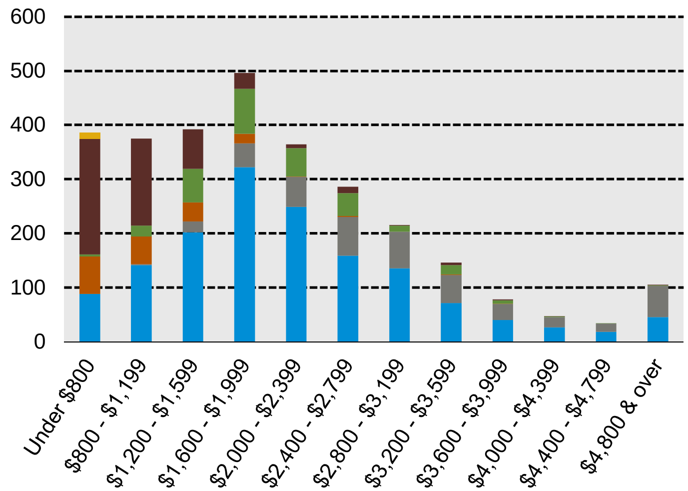
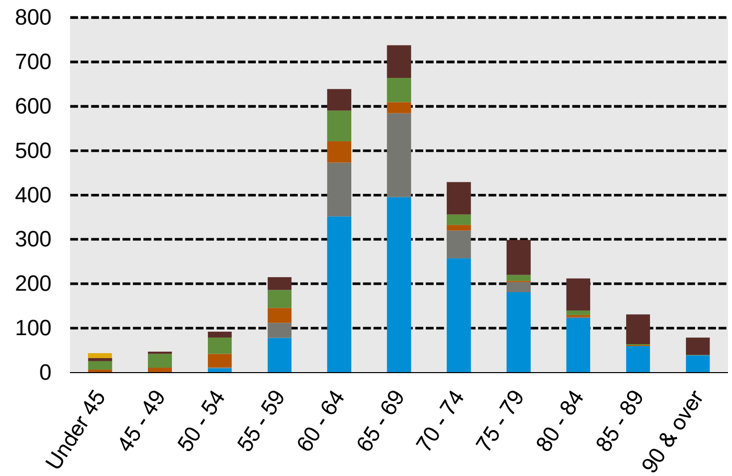


CHART 5

Distribution of Retired Participants and Beneficiaries by Type and by Age as of June 30, 2015



- Minor
- Spouse
- Extraordinary Disability
- Disability
- DROP/VRIP
- Normal/Early

B. FINANCIAL INFORMATION

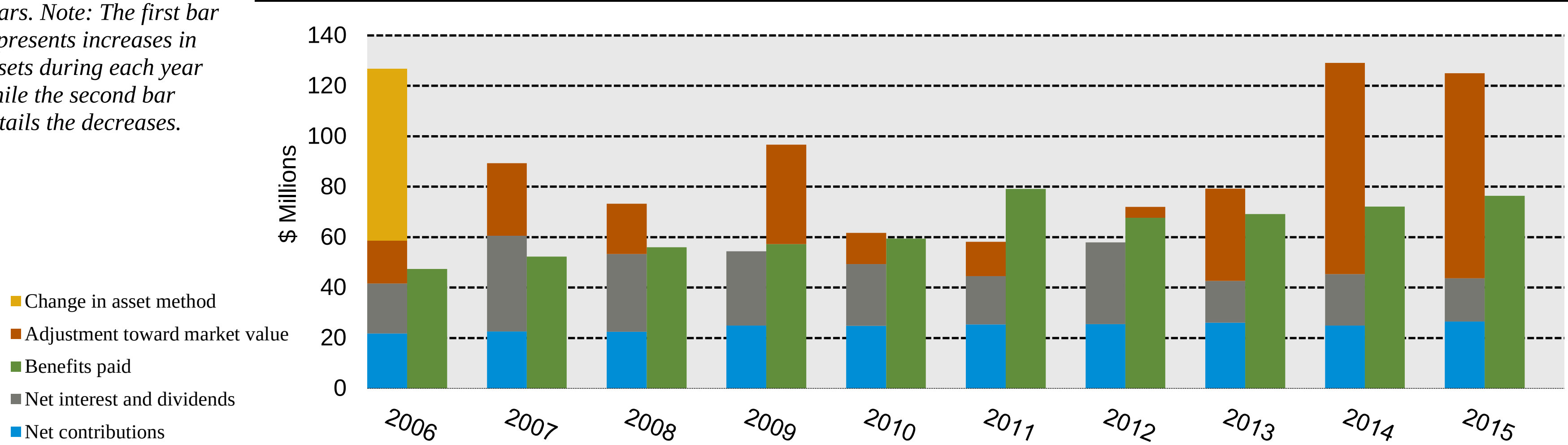
Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D, E and F.

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2006 – 2015



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 7

Determination of Actuarial Value of Assets for Year Ended June 30, 2015

1. Market value of assets, June 30, 2015			$1,026,521,284
	Original	Unrecognized	
2. Calculation of unrecognized return	Amount*	Return**	
(a) Year ended June 30, 2015	-$27,004,744	-$21,603,795	
(b) Year ended June 30, 2014	80,815,186	48,489,112	
(c) Year ended June 30, 2013	30,483,738	12,193,495	
(d) Year ended June 30, 2012	-32,071,454	-6,414,291	
(e) Year ended June 30, 2011	87,006,584	0	
(f) Total unrecognized return			32,664,521
3. Preliminary actuarial value: (1) - (2f)			993,856,763
4. Adjustment to be within 20% corridor			0
5. Final actuarial value of assets as of June 30, 2015: (3) + (4)			$993,856,763
6. Actuarial value as a percentage of market value: (5) ÷ (1)			96.8%
7. Amount deferred for future recognition: (1) - (5)***			$32,664,521

**Total return minus expected return on a market value basis*

***Recognition at 20% per year over five years*

****Deferred return as of June 30, 2015 recognized in each of the next four years:*

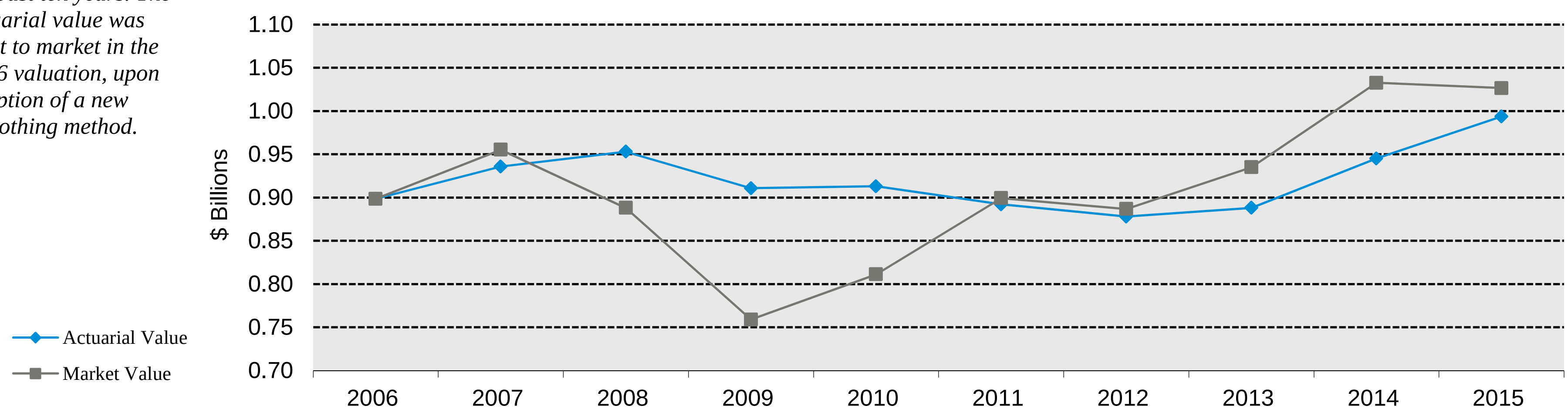
(a) Amount recognized on June 30, 2016	*$10,444,545*	*(c) Amount recognized on June 30, 2018*	*$10,762,088*
(b) Amount recognized on June 30, 2017	*16,858,836*	*(d) Amount recognized on June 30, 2019*	*-5,400,949*

Both the actuarial value and market value of assets are representations of the System's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the System's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in the actuarial value of assets versus the market value over the past ten years. The actuarial value was reset to market in the 2006 valuation, upon adoption of a new smoothing method.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of June 30, 2006 – 2015



C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total gain is $15,931,906, including a gain of $33,971,921 from investments that was partially offset by a net loss of $18,040,015 from all other sources. The net experience variation from individual sources other than investments was 1.4% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

This chart provides a summary of the actuarial experience during the past year.

CHART 9

Actuarial Experience for Year Ended June 30, 2015

1.	Net gain from investments*	$33,971,921
2.	Net loss from administrative expenses	-29,720
3.	Net loss from other experience	-18,010,295
4.	Net experience gain: (1) + (2) + (3)	$15,931,906

** Details in Chart 10*

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the System's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.50%, effective with this valuation. However, the experience is measured against the 7.00% assumption that was in place for last year. The actual rate of return on an actuarial basis for the 2014-2015 plan year was 10.68%.

Since the actual return for the year was greater than the assumed return, the System experienced an actuarial gain during the year ended June 30, 2015 with regard to its investments.

This chart shows the gain due to investment experience.

CHART 10

Actuarial Value Investment Experience for Year Ended June 30, 2015

1.	Actual return	$98,537,303
2.	Average value of assets	922,362,604
3.	Actual rate of return: (1) ÷ (2)	10.68%
4.	Assumed rate of return	7.00%
5.	Expected return: (2) x (4)	$64,565,382
6.	Actuarial gain: (1) – (5)	$33,971,921

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the market value investment return for the last ten years, including five-year and ten-year averages.

Based upon this experience and future expectations, the Board has changed the assumed rate of return from 7.00% to 7.50%.

CHART 11

Investment Return – Actuarial Value vs. Market Value: 2006 - 2015

Year Ended June 30	Net Interest and Dividend Income		Recognition of Capital Appreciation		Change in Asset Method		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
2006	$19,901,991	2.46%	$17,031,771	2.11%	$68,127,085	8.44%	$105,060,847	13.01%	$40,468,583	4.64%
2007	38,017,026	4.30	28,826,146	3.25	- -	- -	66,843,172	7.55	86,398,586	9.76
2008	30,863,174	3.35	19,934,936	2.17	- -	- -	50,798,110	5.52	-33,654,898	-3.58
2009	29,426,568	3.14	-39,403,205	-4.20	- -	- -	-9,976,637	-1.06	-96,873,908	-11.09
2010	24,452,410	2.73	12,425,399	1.39	- -	- -	36,877,809	4.12	86,792,989	11.68
2011	19,155,247	2.16	13,654,863	1.54	- -	- -	32,810,110	3.69	142,064,641	18.06
2012	32,400,056	3.71	-4,339,151	-0.49	- -	- -	28,060,905	3.22	29,540,542	3.36
2013	16,556,971	1.93	36,583,999	4.26	- -	- -	53,140,970	6.19	91,188,014	10.52
2014	20,310,562	2.34	83,837,293	9.67	- -	- -	104,147,855	12.02	144,761,454	15.85
2015	17,160,468	1.86	81,376,835	8.82	- -	- -	98,537,303	10.68	43,686,697	4.33
Total	$248,244,473		$249,928,886		$68,127,085		$566,300,444		$534,372,700	
							Five-year average return	7.18%		10.12%
							Ten-year average return	6.40%		6.09%

Note: Each year's yield is weighted by the average asset value in that year.

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

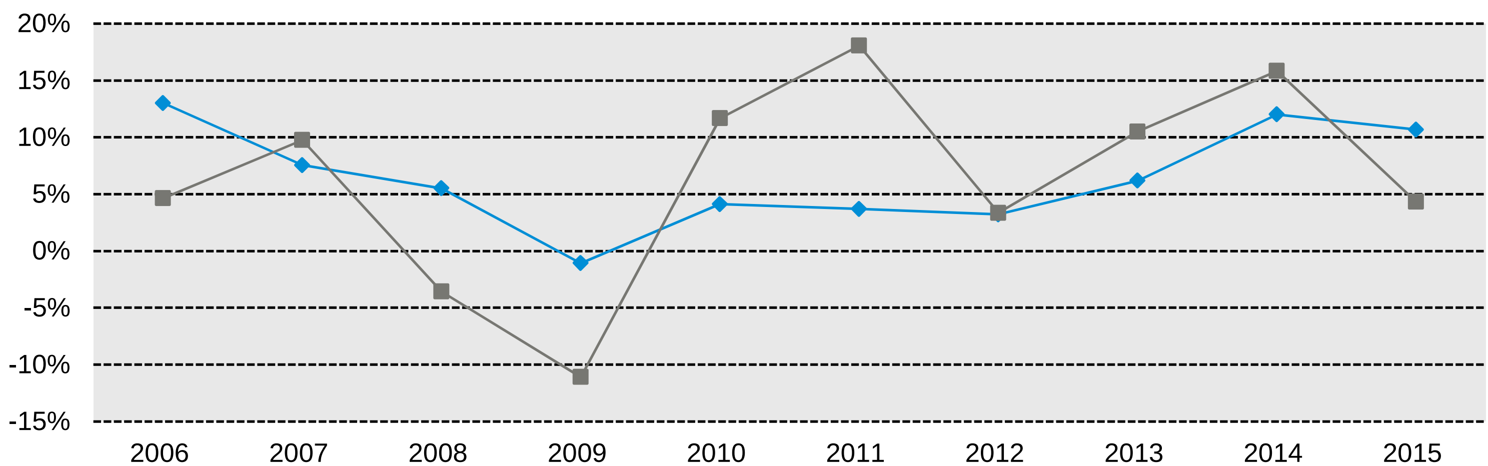
Administrative Expenses

Administrative expenses for the year ended June 30, 2015 totaled $178,807 compared to the assumption of $150,000. This resulted in a loss of $29,720 for the year. We have increased the assumption from $150,000 to $175,000 for the current year.

This chart illustrates how this leveling effect has actually worked over the years 2006 - 2015. The actuarial return for the year ended June 30, 2006 reflects a change in asset method.

CHART 12

Market and Actuarial Rates of Return for Years Ended June 30, 2006 - 2015



Other Experience
There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

The net loss from this other experience for the year ended June 30, 2015 amounted to $18,010,295, which is 1.4% of the actuarial accrued liability.

Assumption Changes
A comprehensive experience study was recently completed for the five-year period ending June 30, 2015. Based on observed experience, changes were made in the majority of assumptions, including investment return, inflation, payroll growth, salary, mortality, disability, turnover, retirement and other demographic assumptions. All changes are outlined in Exhibit V of Section 4.

D. RECOMMENDED CONTRIBUTION

The amount of annual contribution required to fund the Plan is comprised of a normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the total payroll for active members to determine the funding rate of 22.19% of payroll.

The recommended contribution is based on a rolling 30-year amortization of the unfunded actuarial accrued liability as a level percent of pay, assuming a payroll growth of 2.50%. For the plan year beginning July 1, 2015, both the City and members began increased contributions of 7.00% of pay each, up from 6.50%. The combined total of 14.00% of payroll results in an annual deficit of 8.19% when compared to the recommended contribution of 22.19%. A higher contribution will be required to fund this System on an ongoing basis and meet accepted principles and practices. The unfunded actuarial accrued liability is not being amortized at the current contribution levels.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 13

Recommended Contribution

	Year Beginning July 1			
	2015		2014	
	Amount	% of Payroll	Amount	% of Payroll
1. Normal cost*	$21,933,061	11.14%	$23,678,550	12.38%
2. Administrative expenses	168,314	0.09%	144,630	0.07%
3. Employer normal cost: (1) + (2)	$22,101,375	11.23%	$23,823,180	12.45%
4. Actuarial accrued liability	1,319,287,541		1,263,665,128	
5. Actuarial value of assets	993,856,763		945,245,264	
6. Unfunded actuarial accrued liability: (4) - (5)	$325,430,778		$318,419,864	
7. Payment on unfunded actuarial accrued liability	19,905,370	10.11%	17,475,981	9.14%
8. Total recommended contribution: (3) + (7), adjusted for timing**	$43,675,507	22.19%	$42,832,673	22.39%
9. Total payroll	$196,808,411		$191,299,778	

**Includes net obligations from the Supplemental System of -$2,781,508 for July 1, 2015 and -$2,277,164 for July 1, 2014 (-$2,892,006 and -$2,361,719 adjusted for timing).*

***Recommended contributions are assumed to be paid at the beginning of every month.*

The contribution requirements as of July 1, 2015 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Contribution

The chart below details the changes in the recommended contribution from the prior valuation to the current year's valuation.

The chart reconciles the contribution from the prior valuation to the amount determined in this valuation.

CHART 14

Reconciliation of Recommended Contribution from July 1, 2014 to July 1, 2015

Recommended Contribution as of July 1, 2014	$42,832,673
Effect of investment gain	-1,969,534
Effect of other gains and losses on accrued liability	1,045,876
Effect of contributions less than recommended contribution	964,805
Effect of expected change in amortization payment due to payroll growth	543,746
Effect of change in amortization period	-340,142
Effect of increase in contribution rates, from 6.50% to 7.00% of payroll	-160,673
Effect of change in administrative expense assumption	25,000
Effect of changes in other actuarial assumptions	-14,103
Net effect of other changes	747,859
Total change	$842,834
Recommended Contribution as of July 1, 2015	$43,675,507

EXHIBIT A

Table of Plan Coverage

	Year Ended June 30		
Category	**2015**	**2014**	**Change From Prior Year**
Active participants in valuation:			
Number	3,871	3,889	-0.5%
Average age	45.3	45.0	N/A
Average years of service	12.1	11.9	N/A
Total payroll	$196,808,411	$191,299,778	2.9%
Average payroll	50,842	49,190	3.4%
Account balances	122,432,826	124,406,629	-1.6%
Total active vested participants	2,854	2,872	-0.6%
Vested terminated participants*	351	303	15.8%
Retired participants:			
Number in pay status	1,929	1,911	0.9%
Average age	69.6	69.3	N/A
Average monthly benefit	$2,430	$2,395	1.5%
Disabled participants:			
Number in pay status	478	483	-1.0%
Average age	60.9	60.3	N/A
Average monthly benefit	$1,673	$1,659	0.8%
Beneficiaries in pay status:			
Number in pay status	517	503	2.8%
Average age	73.6	73.5	N/A
Average monthly benefit	$972	$962	1.0%
Terminated participants due a refund of employee contributions	33	0	N/A

**Includes future pensioners currently receiving benefits from the Supplemental System.*

EXHIBIT B

Participants in Active Service as of June 30, 2015
By Age, Years of Service, and Average Payroll

		Years of Service								
Age	**Total**	**0 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 - 39**	**40 & over**
Under 25	104	103	- -	1	- -	- -	- -	- -	- -	- -
	$37,132	$37,224	- -	$27,703	- -	- -	- -	- -	- -	- -
25 - 29	299	216	83	- -	- -	- -	- -	- -	- -	- -
	40,594	39,690	$42,947	- -	- -	- -	- -	- -	- -	- -
30 - 34	401	164	193	44	- -	- -	- -	- -	- -	- -
	45,159	41,424	46,480	53,285	- -	- -	- -	- -	- -	- -
35 - 39	479	136	177	121	42	3	- -	- -	- -	- -
	46,595	41,221	44,599	52,808	$55,198	$36,944	- -	- -	- -	- -
40 - 44	534	102	129	121	144	37	1	- -	- -	- -
	52,963	45,268	46,635	56,552	59,618	58,929	$40,881	- -	- -	- -
45 - 49	573	86	104	83	144	127	29	- -	- -	- -
	53,886	44,746	44,210	51,313	57,073	64,273	61,752	- -	- -	- -
50 - 54	636	96	98	70	110	111	133	18	- -	- -
	54,480	45,234	47,910	50,475	53,344	56,829	66,642	$57,741	- -	- -
55 - 59	512	64	61	70	76	95	105	37	4	- -
	53,339	45,285	47,865	50,525	51,986	56,664	56,005	67,066	$64,716	- -
60 - 64	265	35	49	34	41	32	48	17	8	1
	55,715	45,945	45,686	55,976	56,129	53,344	63,496	72,176	81,349	$80,768
65 - 69	52	10	8	7	6	5	7	3	3	3
	68,588	57,879	72,025	52,515	49,255	57,768	73,517	76,149	69,192	169,648
70 & over	16	5	7	1	- -	1	2	- -	- -	- -
	58,243	77,887	37,148	57,540	- -	57,540	83,670	- -	- -	- -
Total	3,871	1,017	909	552	563	411	325	75	15	4
	$50,842	$42,369	$45,911	$53,011	$56,017	$58,877	$62,478	$66,350	$74,482	$147,428

EXHIBIT C

Reconciliation of Participant Data

	Active Participants	Vested Former Participants	Fire and Police Retirees	Disableds	Retired Participants	Beneficiaries	Total
Number as of July 1, 2014	3,889	26	277	483	1,911	503	7,089
New participants	240	N/A	0	N/A	N/A	N/A	240
Terminations – with vested rights	-21	21	0	0	0	0	0
Terminations – without vested rights	-28	N/A	0	N/A	N/A	N/A	-28
Retirements	-110	-2	37	N/A	75	N/A	0
New disabilities	-13	0	0	13	N/A	N/A	0
Return to work	1	-1	0	0	0	N/A	0
Deceased	-4	-1	0	-18	-67	-32	-122
New beneficiaries	0	0	0	0	0	47	47
Lump sum payoffs	-81	0	0	-1	0	0	-82
Rehire	1	0	0	N/A	0	N/A	1
Certain period expired	N/A	N/A	0	0	0	-1	-1
Data adjustments	-3	1	1	1	2	0	2
Retirees transferring from Supplemental Plan	0	0	-8	0	8	0	0
Number as of July 1, 2015	3,871	44	307	478	1,929	517	7,146

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2015		Year Ended June 30, 2014	
Net assets at actuarial value at the beginning of the year		$945,245,264		$888,209,730
Contribution income:				
Employer contributions	$14,464,552		$14,039,103	
Employee contributions	12,227,545		11,984,752	
F&P contribution transfer adjustment*	0		-888,918	
Less administrative expenses	-178,807		-122,916	
Net contribution income		26,513,290		25,012,021
Investment income:				
Interest, dividends and other income	$21,176,818		$24,093,753	
Recognition of capital appreciation	81,376,835		83,837,293	
Less investment fees	-4,016,350		-3,783,191	
Net investment income		98,537,303		104,147,855
Total income available for benefits		$125,050,593		$129,159,876
Less benefit payments:				
Benefits	-$70,471,935		-$68,165,067	
Refunds	-3,046,830		-1,682,976	
DROP payments	-2,920,329		-2,276,299	
Net benefit payments		-$76,439,094		-$72,124,342
Change in actuarial value of assets		$48,611,499		$57,035,534
Net assets at actuarial value at the end of the year		$993,856,763		$945,245,264

**As of June 30, 2013, there was a contribution balance of $888,918 for active fire and police employees with more than 30 years of service, which was understood to be a pending transfer from the Supplemental System. Segal Consulting adjusted the market value of assets to account for this pending transfer. This adjustment was reversed as of June 30, 2014, as the transfer was within the Supplemental System accounts, and not to the Retirement and Relief System.*

Note: A portion of the Retirement and Relief System's assets is allocated to the Health Department. The above summary excludes the Health Department portion.

EXHIBIT E

Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended June 30, 2015		Year Ended June 30, 2014	
Net assets at market value at the beginning of the year		$1,032,760,391		$935,111,258
Contribution income:				
Employer contributions	$14,464,552		$14,039,103	
Employee contributions	12,227,545		11,984,752	
F&P contribution transfer adjustment*	0		-888,918	
Less administrative expenses	-178,807		-122,916	
Net contribution income		26,513,290		25,012,021
Investment income:				
Interest, dividends and other income	$21,176,818		$24,093,753	
Asset appreciation	26,526,229		124,450,892	
Less investment and administrative fees	-4,016,350		-3,783,191	
Net investment income		43,686,697		144,761,454
Total income available for benefits		$70,199,987		$169,773,475
Less benefit payments:				
Benefits	-$70,471,935		-$68,165,067	
Refunds	-3,046,830		-1,682,976	
DROP payments	-2,920,329		-2,276,299	
Net benefit payments		-$76,439,094		-$72,124,342
Change in market value of assets		-$6,239,107		$97,649,133
Net assets at market value at the end of the year		$1,026,521,284		$1,032,760,391

**As of June 30, 2013, there was a contribution balance of $888,918 for active fire and police employees with more than 30 years of service, which was understood to be a pending transfer from the Supplemental System. Segal Consulting adjusted the market value of assets to account for this pending transfer. This adjustment was reversed as of June 30, 2014, as the transfer was within the Supplemental System accounts, and not to the Retirement and Relief System.*

Note: A portion of the Retirement and Relief System's assets is allocated to the Health Department. The above summary excludes the Health Department portion.

EXHIBIT F

Summary Statement of Plan Assets

	Year Ended June 30, 2015		Year Ended June 30, 2014	
Cash equivalents		$37,281,660		$34,955,625
Accounts receivable:				
Employee loans	$10,393,818		$10,348,970	
Accrued interest and dividends	0		2,288,933	
Miscellaneous	34,119		0	
Total accounts receivable		10,427,937		12,637,903
Investments:				
Corporate stock	$648,334,725		$758,171,586	
Domestic corporate bonds	121,730,114		137,300,768	
U.S. Government obligations	112,251,045		90,585,406	
Alternative investments	97,408,915		0	
Total investments at market value		979,724,799		986,057,760
Total assets		$1,027,434,396		$1,033,651,288
Less accounts payable		-$913,112		-$890,897
Net assets at market value		$1,026,521,284		$1,032,760,391
Net assets at actuarial value		$993,856,763		$945,245,264

EXHIBIT G

Development of the Fund Through June 30, 2015

Year Ended June 30	Employer Contributions	Employee Contributions	Other Income	Net Investment Return[1]	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
2006	$11,398,732	$10,522,586	$36,000	$105,060,847[2]	$160,000	$47,353,888	$898,671,013
2007	12,006,508	10,707,106	16,000	66,843,172	180,000	52,242,705	935,821,094
2008	12,061,584	10,604,722	1,000	50,798,110	183,375	56,023,465	953,079,670
2009	12,770,110	12,433,019	11,000	-9,976,637	245,261	57,302,709	910,769,192
2010	13,224,808	11,896,839	17,000	36,877,809	263,250	59,444,574	913,077,824
2011	13,772,490	11,881,396	8,000	32,810,110	273,817	79,179,627	892,096,375
2012	13,676,554	12,027,821	12,000	28,060,904	145,619	67,679,529	878,048,507
2013	13,591,846	11,786,408	890,918[3]	53,140,970	138,933	69,109,986	888,209,730
2014	14,039,103	11,984,752	-888,918[3]	104,147,855	122,916	72,124,342	945,245,264
2015	14,464,552	12,227,545	0	98,537,303	178,807	76,439,094	993,856,763

[1] *Net of investment fees*

[2] *Includes effect of change in asset method*

[3] *As of June 30, 2013, there was a contribution balance of $888,918 for active fire and police employees with more than 30 years of service, which was understood to be a pending transfer from the Supplemental System. Segal Consulting adjusted the market value of assets to account for this pending transfer. This adjustment was reversed as of June 30, 2014, as the transfer was within the Supplemental System accounts, and not to the Retirement and Relief System.*

EXHIBIT H

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2015

1. Unfunded actuarial accrued liability at beginning of year		$318,419,864
2. Normal cost at beginning of year		23,823,180
3. Total contributions		-26,692,097
4. Interest		
(a) For whole year on (1) + (2)	$23,957,013	
(b) Monthly on (3)	-856,371	
(c) Total interest		23,100,642
5. Expected unfunded actuarial accrued liability		$338,651,589
6. Changes due to:		
(a) Net experience gain	-$15,931,906	
(b) Changes in assumptions	3,090,407	
(c) Change in plan provisions	-379,312	
(d) Total changes		-13,220,811
7. Unfunded actuarial accrued liability at end of year		$325,430,778

EXHIBIT I

Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $210,000 for both 2015 and 2016. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

EXHIBIT J

Comparative Summary of Principal Valuation Results

	Year Ended June 30, 2015			
	New Plan New Assumptions	New Plan Old Assumptions	Old Plan Old Assumptions	Year Ended June 30, 2014
Participant data				
Active members	3,871	3,871	3,871	3,889
Total annual payroll	$196,808,411	$196,808,411	$196,808,411	$191,299,778
Retired members and beneficiaries	2,924	2,924	2,924	2,897
Total annualized benefit	$71,869,548	$71,869,548	$71,869,548	$70,348,257
Terminated vested members	44	44	44	26
Total annualized benefit	$506,553	$506,553	$506,553	$313,329
Future pensioners currently receiving benefits from Supplemental System	307	307	307	277
Total annualized benefit	$12,701,662	$12,701,662	$12,701,662	$11,292,345
Terminated participants due a refund of contributions	33	33	33	--
Actuarial value of assets	$993,856,763	$993,856,763	$993,856,763	$945,245,264
Actuarial accrued liability:				
Active members:	$524,055,953	$523,428,135	$523,807,447	$496,425,267
Terminated vested members*	3,620,184	3,698,049	3,698,049	2,636,660
Retired members and beneficiaries	679,871,199	674,718,244	674,718,244	666,716,108
Future pensioners currently receiving benefits from Supplemental System	111,740,205	114,352,706	114,352,706	97,887,093
Total	$1,319,287,541	$1,316,197,134	$1,316,576,446	$1,263,665,128
Unfunded actuarial accrued liability	$325,430,778	$322,340,371	$322,719,683	$318,419,864

**Includes terminated participants due a refund of contributions*

EXHIBIT K
Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions: The estimates on which the cost of the Plan is calculated including:

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Withdrawal rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the benefit allocated to the current year of service.

Actuarial Accrued Liability For Actives: The value of all projected benefit payments for current members less the portion that will be paid by future normal costs.

Actuarial Accrued Liability For Pensioners: The single-sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded Actuarial Accrued Liability: Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.

Investment Return: The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

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EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Retired participants as of the valuation date (including 517 beneficiaries in pay status)		2,924
2.	Participants inactive during year ended June 30, 2015 with vested rights (including 307 future pensioners currently receiving benefits from the Supplemental System)		351
3.	Participants active during the year ended June 30, 2015		3,871
	Fully vested	2,854	
	Not vested	1,017	
4.	Terminated participants due a refund of contributions		33

The actuarial factors as of the valuation date are as follows:

1.	Normal cost, including administrative expenses		$22,101,375
2.	Actuarial accrued liability		1,319,287,541
	Retired participants and beneficiaries	$679,871,199	
	Inactive participants with vested rights*	115,085,101	
	Active participants	524,055,953	
	Terminated members due a refund of contributions	275,288	
3.	Actuarial value of assets ($1,026,521,284 at market value as reported by the City)		993,856,763
4.	Unfunded actuarial accrued liability		$325,430,778

The determination of the recommended contribution is as follows:

1.	Normal cost	$21,933,061
2.	Administrative expenses	168,314
3.	Employer normal cost: (1) + (2)	$22,101,375
4.	Payment on unfunded actuarial accrued liability	19,905,370
5.	Total recommended contribution: (3) + (4), adjusted for timing	$43,675,507
6.	Total payroll	$196,808,411
7.	Total recommended contribution as a percentage of total payroll: (5) ÷ (6)	22.19%

**Includes liability for deferred benefits from the Retirement and Relief System payable to pensioners currently receiving benefits from the Supplemental System.*

EXHIBIT II

History of Employer Contributions

Plan Year Ended June 30	Actuarially Determined Employer Contributions (ADEC)*	Actual Contributions	Percentage Contributed
2010	$21,118,910	$13,224,808	62.6%
2011	18,147,790	13,772,490	75.9%
2012	18,904,668	13,676,554	72.3%
2013	20,516,938	13,591,846	66.2%
2014	30,553,712	14,039,103	45.9%
2015	30,398,187	14,464,552	47.6%
2016	29,898,918	--	--

**Prior to July 1, 2013, this amount was the Annual Required Contribution (ARC) and was calculated presuming that the employees would be responsible for an equal share of the cost of the System. However, if employee contribution rates were insufficient to cover half of the cost, the City was ultimately responsible for the funding of the Plan. Beginning July 1, 2013, the Actuarially Determined Employer Contribution (ADEC) is equal to the total calculated contribution in the most recent actuarial valuation, minus the portion expected to be covered by employee contributions.*

EXHIBIT III

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
07/01/2010	$913,077,824	$1,113,441,433	$200,363,609	82.01%	$193,229,880	103.69%
07/01/2011	892,096,375	1,158,070,396	265,974,021	77.03%	177,977,161	149.44%
07/01/2012	878,048,507	1,181,090,260	303,041,753	74.34%	181,406,586	167.05%
07/01/2013	888,209,730	1,216,684,458	328,474,728	73.00%	182,634,179	179.85%
07/01/2014	945,245,264	1,263,665,128	318,419,864	74.80%	191,299,778	166.45%
07/01/2015	993,856,763	1,319,287,541	325,430,778	75.33%	196,808,411	165.35%

EXHIBIT IV

Funded Ratio

A critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

The chart below depicts a history of the funded ratios for this plan on both an actuarial value (AVA) and a market value (MVA) basis.

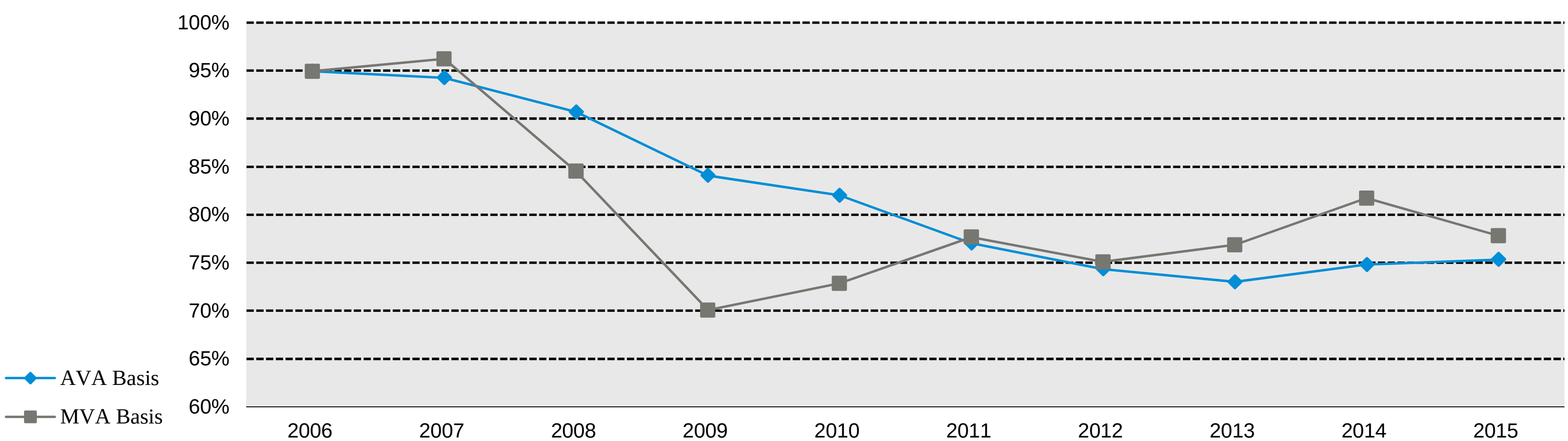

EXHIBIT V

Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation are shown in the Experience Study Report for the five-year period ended June 30, 2015. The new assumptions recommended in that study are implemented for the first time in this valuation. Changes from the prior year are listed at the end of this exhibit.
Mortality Rates:	
Pre-retirement:	RP-2014 Blue Collar Employee Mortality Table, set forward two years for males and four years for females, projected generationally using Scale MP-2015
Healthy annuitants:	RP-2014 Blue Collar Employee Healthy Annuitant Mortality Table, set forward two years for males and four years for females, projected generationally using Scale MP-2015
Disabled annuitants:	RP-2014 Disabled Retiree Mortality Table, projected generationally using Scale MP-2015
	The tables above, with adjustments as shown, reasonably reflect the mortality experience of the Fund as of the measurement date. The mortality tables were then generationally projected using Scale MP-2015 to reflect future mortality improvement.
On the Job Disability:	
General	50%
Fire	80%
Police	100%
On the Job Death:	
General	5%
Fire and Police	15%

Termination Rates Before Retirement:

	Rate (%)				
	Mortality*		**Disability**		
Age	**Male**	**Female**	**General**	**Fire**	**Police**
20	0.06	0.02	0.08	0.15	0.15
25	0.06	0.02	0.11	0.15	0.15
30	0.06	0.03	0.14	0.15	0.15
35	0.07	0.04	0.19	0.95	0.15
40	0.09	0.07	0.29	0.95	0.50
45	0.16	0.11	0.47	0.95	0.50
50	0.27	0.17	0.79	0.95	0.50
55	0.44	0.25	1.31	0.95	0.50
60	0.56	0.38	2.12	0.95	0.50

**Rates shown do not include generational projection.*

Termination Rates Before Retirement (continued):

	Rate%	
	Withdrawal	
Years of Service	General	Fire and Police
1	10.00	5.00
2	9.00	4.50
3	8.00	4.25
4	7.50	4.00
5	7.00	3.75
6	6.50	3.50
7	6.00	3.25
8	5.50	3.00
9	5.00	2.50
10	4.50	2.00
11	4.00	1.75
12	3.50	1.50
13	3.00	1.25
14	2.50	1.00
15	2.00	1.00
16	1.50	1.00
17-20	1.00	0.50
20-30	1.00	0.00

Retirement Rates: Fire and Police employees are assumed to retire in accordance with the following rates. Benefits are payable from the Firemen's and Policemen's Supplemental Pension System until the participant reaches their Normal Retirement Age under the Retirement and Relief System.

Fire: Years of Service*	Fire: Rate%	Police: Years of Service*	Police: Rate%
20	15.0	20	30.0
21	10.0	21	15.0
22-25	5.0	22	7.5
26-27	2.0	23-25	25.0
28	10.0	26	20.0
29	50.0	27-28	10.0
30-32	0.0	29	40.0
33	50.0	30-32	0.0
34	20.0	33	100.0
35	100.0		

**Retirement is assumed to occur no later than age 65*

General employees are assumed to retire, after meeting the service requirements, in accordance with the following rates:

Age	Rate%
Under 50	0.0
50-54	35.0
55-60	20.0
61	25.0
62	40.0
63-64	25.0
65-73	35.0
74 & Over	100.0

Retirement Age for Inactive Vested Participants:	60
Interest on DROP Accounts:	5.00%
Utilization of BackDROP:	40% of retiring General Employees are assumed to elect a three-year BackDROP. General Employees who retire prior to 33 years of service are not assumed to utilize the BackDROP provisions of the plan. 90% of retiring Firefighters are assumed to elect a three-year BackDROP. Firefighters who retire prior to 23 years of service are not assumed to utilize the BackDROP provisions of the plan. 70% of retiring Police Officers are assumed to elect a three-year BackDROP. Police Officers who retire prior to 23 years of service are not assumed to utilize the BackDROP provisions of the plan.
Unknown Data for Participants:	Same as those exhibited by Participants with similar known characteristics. If not specified, Participants are assumed to be male.
Percent Married:	75%
Age of Spouse:	Females three years younger than males
Net Investment Return:	7.50% The net investment return assumption was chosen by the Retirement System's Board of Trustees, with input from the actuary. This assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes, as well as the System's target asset allocation.
Administrative Expenses:	$175,000, payable monthly, equivalent to $168,314 at the beginning of the year.

Salary Scale:

Age	General	Years of Service	Fire and Police
	Rate (%)		
20	7.00	0-1	6.75
25	6.25	1-2	6.50
30	5.50	2-3	6.25
35	4.75	3-4	6.00
40	4.00	4-5	5.75
45	3.50	5-6	5.50
50	3.00	6-7	5.25
55	2.75	7-8	5.00
60	2.50	8-9	4.75
65	2.50	9-10	4.50
70 & over	2.50	10-14	4.00
		15-19	3.50
		20-24	3.00
		25-29	2.75

The salary scale assumption includes an allowance for inflation of 2.50% per year. The assumption is based on the City's pay plan, along with analysis completed in conjunction with an Experience Study Report for the five-year period ended June 30, 2015.

Actuarial Value of Assets: Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.

Actuarial Cost Method: Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant would have commenced employment if the plan had always been in existence. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by service, with Normal Cost determined as if the current benefit accrual rate had always been in effect. Actuarial Liability is allocated by salary.

Change in Assumptions:

A comprehensive Actuarial Experience Review, covering the period July 1, 2010 through June 30, 2015, was completed in May 2016. As a result of that study, the following assumption changes were proposed by the actuary and subsequently were approved by the Board. These changes are reflected for the first time in this valuation.

- The investment return assumption was increased from 7.00% to 7.50%.
- The inflation assumption was lowered from 3.00% to 2.50%.
- The payroll growth rate assumption (used for determining the amortization of the unfunded actuarial accrued liability) was lowered from 3.00% to 2.50%.
- The age-based salary scale assumption for General Employees was maintained, with the individual rates lowered. The salary scale assumption for Fire and Police was restructured from an age-related to a service-related set of rates, to reflect actual plan experience.
- The administrative expense assumption was increased from $150,000 to $175,000.
- The pre-retirement mortality assumption was changed from the RP-2000 Combined Healthy Mortality Table, with rates set forward two years for both males and females, to the RP-2014 Blue Collar Employee Mortality Table with rates set forward two years for males and four years for females. This table is projected generationally with Scale MP-2015.
- The post-retirement mortality assumption for healthy annuitants was changed from the RP-2000 Combined Healthy Mortality Table, with rates set forward two years for both males and females, to the RP-2014 Blue Collar Healthy Annuitant Mortality Table with rates set forward two years for males and four years for females. This table is projected generationally with Scale MP-2015.
- The mortality assumption for disabled retirees was changed from the RP-2000 Disabled Retiree Mortality Table, multiplied by 70%, to the RP-2014 Disabled Retiree Mortality Table. This table is projected generationally with Scale MP-2015.
- Retirement rates were modified for all groups to better reflect actual experience and expected future patterns.
- The BackDROP utilization assumption was lowered from 100% for all groups to 40% for General Employees, 90% for Firefighters and 70% for Police Officers.

- The turnover assumption for all groups was modified from a five-year select-and-ultimate assumption based on age to an assumption based on years of service. The rates reflect higher rates during earlier periods of employment. The rates for General Employees are higher than the rates for Police and Fire. The ultimate rate was set to zero for Police and Fire employees with twenty or more years of service.
- The disability rates were modified for all groups to better reflect actual experience and expected future patterns. The on-the-job disability assumption was lowered from 100% to 80% of all disabilities for Firefighters only.
- The percent married assumption was lowered from 80% to 75%.

EXHIBIT VI
Summary of Plan Provisions

This exhibit summarizes the major provisions of the System included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Plan Status:	Ongoing
Normal Pension:	
Eligibility	A participant may retire at (a) age 60 if he has completed 5 years of credited service, or (b) any age if he has completed 30 years of credited service.
Amount:	2.50% of final average salary for each year of credited service. This amount cannot be greater than 75.0% of the final average salary nor less than $400 per month. Service credit used to determine the benefit amount may be increased by credit granted for unused sick leave (on a percent of possible total basis). Final average salary is defined as the highest average compensation over any 36-month period of the employee's last ten years of participation.
Early Retirement Pension:	
Eligibility	A City participant may retire at age 55 if he has completed 25 years of credited service.
Amount	1.85% of final average salary for each year of credited service.

Disability:	
Ordinary	
Service Requirement	5 years credited service.
Amount	2.00% of final average salary at disability for each year of credited service, payable immediately. This amount cannot be greater than 60% of final average salary nor less than $400.
Extraordinary	
Service Requirement	None
Amount	70% of final monthly salary at disability, offset by the maximum Worker's Compensation benefit, payable immediately.
Termination:	To a participant terminating before becoming eligible for a vested deferred pension from the plan, a lump sum of his or her own contributions without interest is payable. Participants terminating after 5 years of actual service who leave their contributions in the System Fund have a non-forfeitable right to a monthly pension beginning at age 60. The form and amount of the pension are the same as the normal pension.
Death Benefits:	If a participant dies prior to his or her attainment of eligibility for retirement, a lump sum of his or her own contributions without interest is payable to his or her beneficiary. If an active participant who is eligible to retire or a retired participant dies, 60% of the accrued pension benefit is payable to the surviving spouse, if any, during his or her remaining lifetime. If an active participant (other than a participant of the Firemen and Policemen Supplemental System) who is not eligible to retire, but who has completed 5 years of service dies, a portion of 60% of the accrued pension benefit is payable to the spouse during her remaining lifetime. This portion is defined as follows:

Number of Years of Service	Portion of Entitled Benefit
5	50%
6	60
7	70
8	80
9	90
10 or more	100

This benefit is payable at the earlier of (a) the date that the deceased participant would have attained age 60 or (b) the date the deceased participant would have completed 20 years of service. In lieu of the above, for all participants, an annuity of 60% of salary is payable to the surviving spouse and 10% is payable to a minor child if death is service connected; the maximum for spouse and children is 75% and the maximum for children if no spouse is 60%. The minimum spouse benefit is $320 per month.

Back-DROP: An employee with 33 years of service or who is at least age 63 with 23 years of service may elect up to a 36-month Back-DROP. The employee's monthly benefit will be calculated using service and final average salary as of the Back-DROP date and the employee will receive a lump sum equal to the number of months dropped back times the retirement benefit, accumulated with interest.

Participation: All qualified employees of the Retirement and Relief System are required to participate.

Contributions:

Employees 6.50% of compensation, increasing to 7.00% effective July 1, 2015

City 6.50% of compensation, increasing to 7.00% effective July 1, 2015

Changes in Plan Provisions: Since the last valuation date, the employee and City contribution rates increased from 6.50% of compensation to 7.00% of compensation.