Fire and Police Pension Fund, San Antonio

Actuarial Valuation and Review as of January 1, 2017

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June 22, 2017

Board of Trustees
Fire and Police Pension Fund, San Antonio
11603 W. Coker Loop, Suite 201
San Antonio, Texas 78216-3099

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of January 1, 2017. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience and establishes the funding requirements for fiscal 2017 and later years.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Pension Fund. The census and financial information on which our calculations were based was prepared by the staff of the Fund. That assistance is gratefully acknowledged.

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 asset smoothing); 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. Ms. Brigham 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 herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Fund.

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: Deborah K. Brigham

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

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SECTION 1

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SECTION 2

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Purpose

This report has been prepared by Segal Consulting to present a valuation of the San Antonio Fire and Police Pension Fund as of January 1, 2017. 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 Fund, as administered by the Board;
- The characteristics of covered active participants, retired participants and beneficiaries as of December 31, 2016, provided by the Fund;
- The assets of the Fund as of December 31, 2016, provided by the Fund;
- 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 set by the Board of Trustees, based on recommendations made by Segal Consulting following a five-year experience study for the period ended September 30, 2014.

Significant Issues in Valuation Year

1. The Fund has changed its valuation date from October 1 to January 1. This report covers a 15-month period.
2. The total recommended plan contribution for January 1, 2017 through December 31, 2017 is 31.48% of projected payroll, an increase of 0.94% of pay from the last valuation's calculated rate of 30.54%. As a dollar amount, the recommended contribution has increased from $94.9 million to $99.1 million. Chart 15 on page 13 in this report reconciles the dollar amount of the change in recommended contribution from October 1, 2015 to January 1, 2017.
3. The City is expected to continue to contribute 24.64% of pay, and members are expected to contribute 12.32%, for a total of 36.96% of pay. The calculated rate of 31.48% is based on a 30-year level percent-of-pay amortization of the unfunded actuarial accrued liability. Since the actual budgeted contributions are greater than the recommended amount, the unfunded liability is effectively being amortized over a period of 13.07 years as a level percent of pay. This is a 1.93-year increase in the effective period from 11.14 in the prior valuation. The Fund continues to meet the requirements of the State Pension Review Board (PRB) for actuarial soundness, and no Funding Soundness Restoration Plan is required.
4. The Schedule of Funding Progress, provided in Exhibit III of Section 4, shows that the funded ratio on an actuarial basis has decreased from 88.82% as of October 1, 2015 to 87.92% as of January 1, 2017. On a market value basis, the ratio increased from 80.66% to 83.72%.

5. The investment rate of return on an actuarial basis for the 15-month period ended December 31, 2016 was 6.15%. Since the return was less than the assumed annual rate of return of 7.25%, there was an actuarial investment loss amounting to $89.3 million. The return on a market value basis for the 15-month period was 10.87%. Currently, the actuarial value of assets is $3.0 billion, or 105.02% of market value.
6. The net investment loss was partially offset by a gain on other experience. This gain is attributable to the CPI-based cost-of-living adjustments (COLAs). CPI for calendar year 2015 was 0.7%, which was less than the assumed rate of 3.0%.
7. The investment losses that have occurred in the past years have only been partially recognized in the determination of the actuarial value of assets. As indicated in Section 2, Subsection B of this report, the total unrecognized investment loss as of December 31, 2016 is approximately $142 million. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment gains derived from future experience. This implies that earning the assumed rate of investment return on a market value basis will result in investment losses on the actuarial value of assets in the next few years. Therefore, if the actual market return is equal to the assumed rate and all other actuarial assumptions are met, the contribution requirements will still increase in the short term. To illustrate the effect of the net unrecognized investment losses, if the current year's actuarial value of assets were equal to the current market value of assets, the recommended contribution would be 33.98% of payroll rather than 31.48%, the plan's funded ratio would decrease from 87.92% to 83.72% and the effective amortization period would increase from 13.07 years to 19.56 years.
8. This report constitutes an actuarial valuation for the purpose of determining the recommended contribution under the San Antonio Police and Fire Pension Fund's funding policy and measuring the progress of that funding policy. Measurement of the Net Pension Liability and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the Fund's audit report as of December 31, 2016 and the City's audit report as of September 30, 2017, were provided separately. The recommended contribution in this valuation is used as the Actuarially Determined Contribution (ADC) for GASB financial reporting.

Summary of Key Valuation Results

	January 1, 2017	October 1, 2015
Contributions (Employer and Employee) for plan year:		
Recommended contribution	$99,120,618	$94,918,465
As a percentage of projected payroll	31.48%	30.54%
Actual dollars of contributions	--	142,157,091*
Actual contribution rate	36.96%	36.96%
Effective amortization period	13.07 years	11.14 years
Funding elements for plan year:		
Market value of assets	$2,834,548,425	$2,595,910,683
Actuarial value of assets	2,976,885,674	2,858,461,847
Entry age normal cost, including administrative expenses and adjusted for timing	76,542,180	75,045,536
Actuarial accrued liability	3,385,806,423	3,218,382,810
Unfunded actuarial accrued liability	408,920,749	359,920,963
Funded ratio – actuarial value of assets	87.92%	88.82%
Funded ratio – market value of assets	83.72%	80.66%
Demographic data for plan year:		
Number of retired participants and beneficiaries	2,634	2,478
Number of active participants	3,787	3,815
Total payroll	$304,194,776	$300,298,799
Average payroll	80,326	78,715
Projected payroll	314,841,593	310,809,257

**Reflects contributions made during the 15-month period October 1, 2015- December 31, 2016.*

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 Fund. 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 Fund, 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 Board. 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 Fund 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 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 Fund, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Fund.

A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active 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: 2007 – 2016

Period Ended	Active Participants	Retired Participants and Beneficiaries	Ratio of Non-Actives to Actives
September 30:			
2007	3,517	1,887	0.54
2008	3,580	1,978	0.55
2009	3,735	2,074	0.56
2010	3,808	2,150	0.56
2011	3,904	2,182	0.56
2012	3,925	2,255	0.57
2013	3,955	2,317	0.59
2014	3,944	2,373	0.60
2015	3,815	2,478	0.65
December 31:			
2016	3,787	2,634	0.70

Note: Chart 1 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 3,787 active participants with an average age of 42.4, average years of service of 14.8 years and average payroll of $80,326. The 3,815 active participants in the prior valuation had an average age of 42.4, average service of 14.8 years and average payroll of $78,715.

The number of active Firefighters increased from 1,617 to 1,652 as of December 31, 2016. Their average age in this valuation is 41.5, their average years of service is 14.2, and their average salary is $77,107. In the last valuation, these averages were 41.7, 14.5, and $77,104, respectively.

The number of active Police Officers decreased from 2,198 to 2,135 as of December 31, 2016. The average age of this group increased from 42.9 to 43.1, the average service increased from 15.0 to 15.2, and the average salary increased from $79,901 to $82,817.

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 December 31, 2016

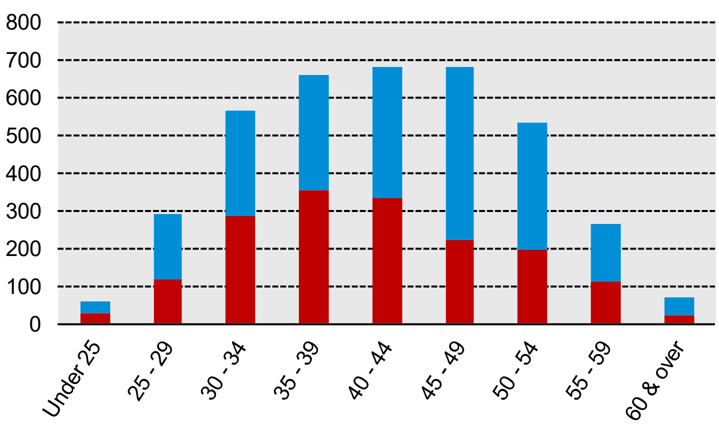
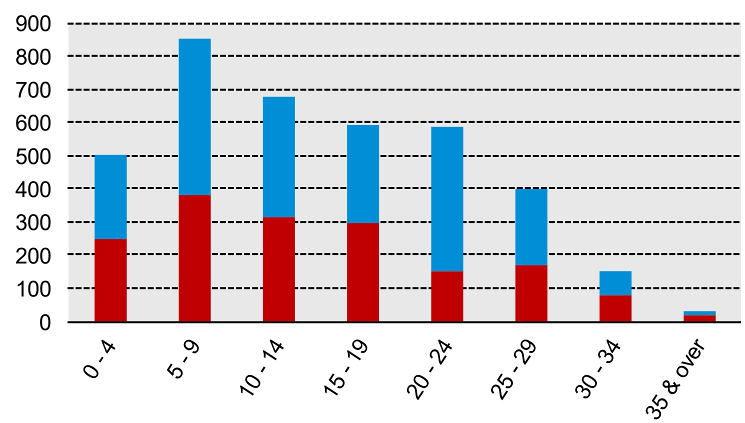


CHART 3

Distribution of Active Participants by Years of Service as of December 31, 2016



Retired Participants and Beneficiaries
As of December 31, 2016, 2,151 retired participants and 483 beneficiaries were receiving total monthly benefits of $10,665,539. For comparison, in the previous valuation, there were 2,009 retired participants and 469 beneficiaries receiving monthly benefits of $9,800,458. The 2016 retiree count includes 112 former spouses receiving benefits and the beneficiary count includes 35 dependent children receiving benefits. In the prior valuation there were 95 former spouses and 32 dependent children receiving benefits.

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 December 31, 2016

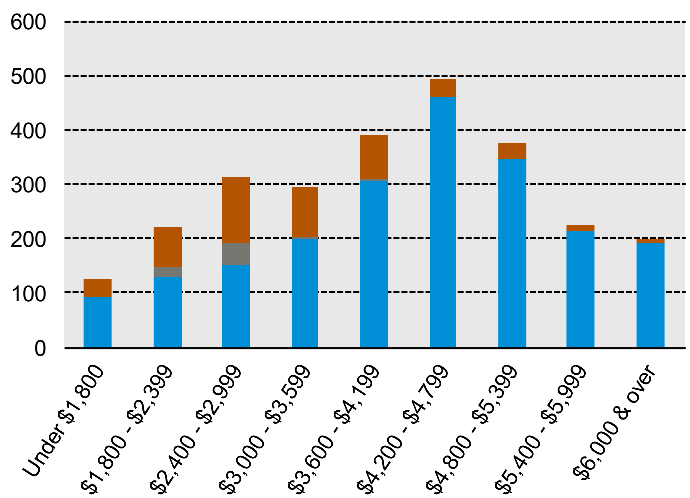
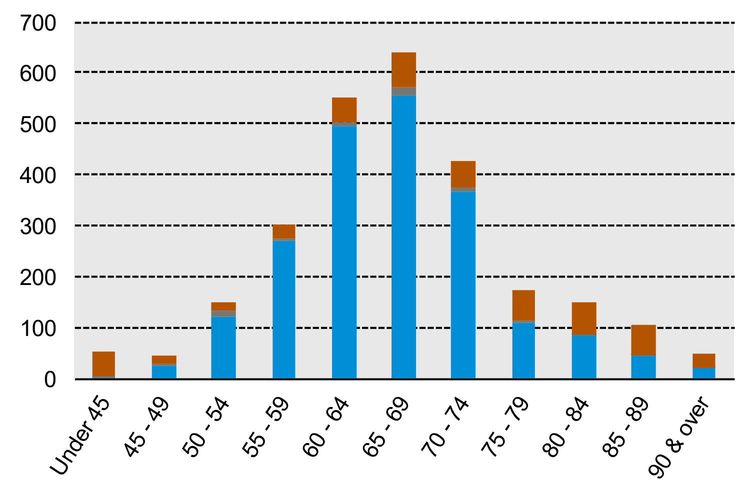


CHART 5

Distribution of Retired Participants and Beneficiaries by Type and by Age as of December 31, 2016



Beneficiary
Disability
Service

B. FINANCIAL INFORMATION

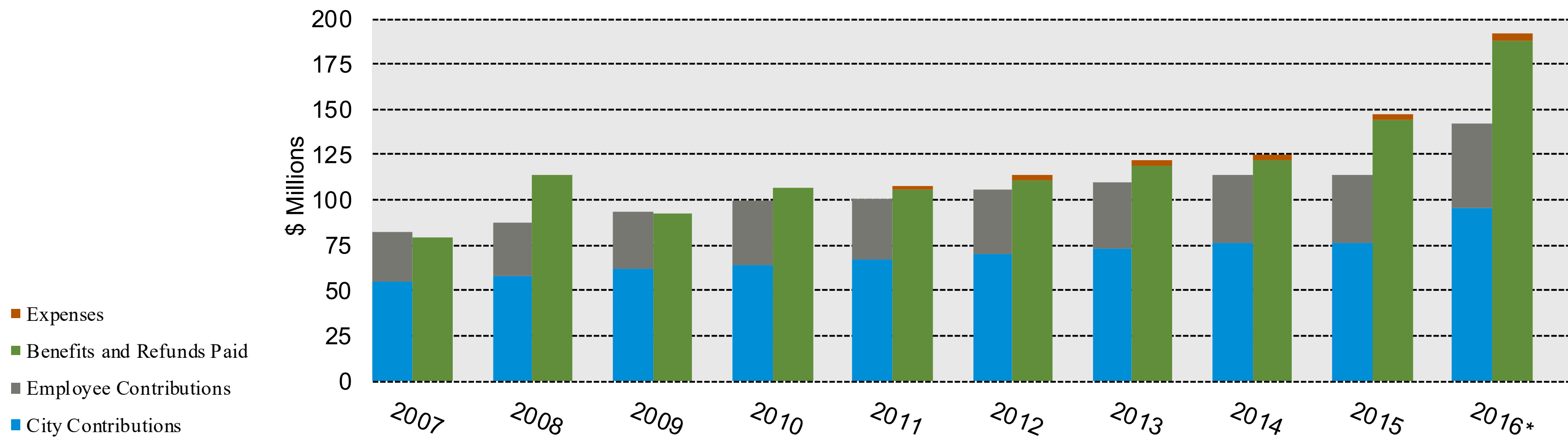
Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

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 contributions made and benefits and expenses paid over the last ten valuations.

CHART 6

Comparison of Contributions Made and Benefits and Expenses Paid for Years Ended September 30, 2007- 2015 and December 31, 2016*



**The cash flows shown for 2016 reflect a 15-month period, due to the change in Plan Year from a September 30 year-end to a December 31 year-end.*

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 Periods Ended December 31, 2015 and 2016

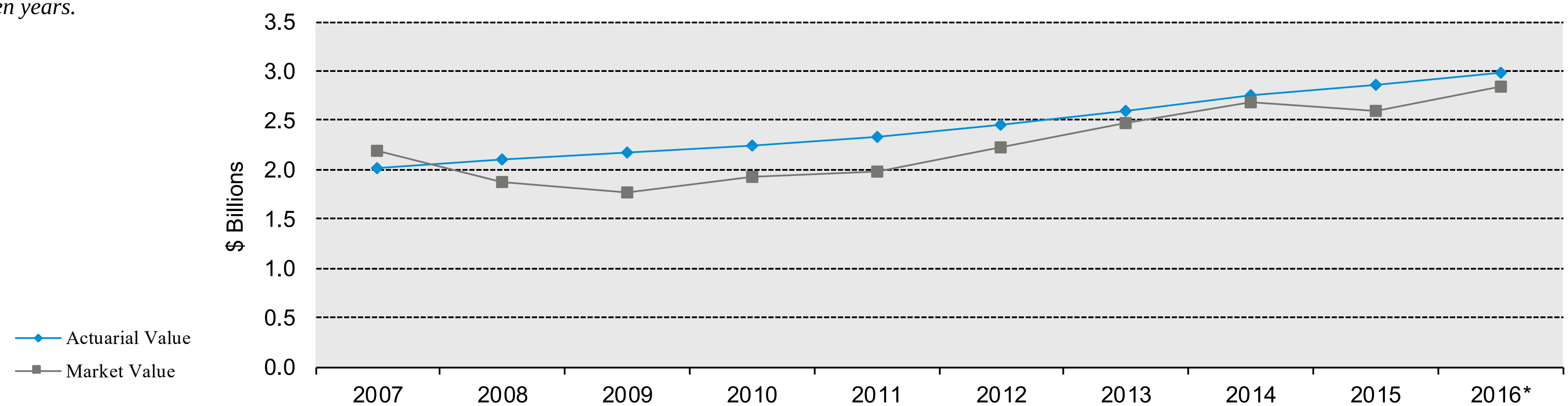
	12-Month Period Ending December 31, 2016	3-Month Period Ending December 31, 2015
1. Actuarial value of assets as beginning of period	$2,848,593,452	$2,858,461,847
2. Contributions, less benefit payments and administrative expenses	-41,154,636	-7,882,260
3. Expected investment return at 7.25%	205,031,170	51,738,188
4. Preliminary actuarial value of assets: (1) + (2) + (3)	3,012,469,986	2,902,317,775
5. Market value of assets as of December 31	2,834,548,425	2,633,696,162
6. Adjustment toward market value: 20% of [(5) – (4)]	-35,584,312	-53,724,323
7. Final actuarial value of assets of December 31: [(4) + (6)]	$2,976,885,674	$2,848,593,452
8. Actuarial value as a percentage of market: [(7) ÷ (5)]	105.02%	
9. Amount deferred for future recognition: (5) - (7)	-142,337,249	

Both the actuarial value and market value of assets are representations of the Fund'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 Fund'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.

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of September 30, 2007- 2015 and December 31, 2016



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 loss over the 15-month period is $66,721,227, including a loss of $89,308,635 from investments that was partially offset by a gain of $22,587,408 from all other sources. The net experience variation from individual sources other than investments was 0.7% 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 15 months.

CHART 9

Actuarial Experience for 15-Month Period Ended December 31, 2016

1.	Net loss from investments*	-$89,308,635
2.	Net loss from administrative expenses	-36,759
3.	Net gain from other experience**	22,624,167
4.	Net experience loss: (1) + (2) + (3)	-$66,721,227

**Details in Chart 10*

***Details in Chart 13*

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 Fund's investment policy. For valuation purposes, the assumed annual rate of return on the actuarial value of assets is 7.25%. The actual rate of return on an actuarial basis for the 15-month period ending December 31, 2016 was 6.15%.

Since the actual return for the year was less than the assumed return, the Fund experienced an actuarial loss during the 15-month period ended December 31, 2016 with regard to its investments.

This chart shows the loss due to investment experience.

CHART 10

Actuarial Value Investment Experience for the 15-Month Period Ending December 31, 2016

1.	Actual return	$167,460,723
2.	Average value of assets	2,721,638,903
3.	Actual rate of return: (1) ÷ (2)	6.15%
4.	Assumed annual rate of return	7.25%
5.	Expected return	$256,769,358
6.	Actuarial loss: (1) – (5)	-$89,308,635

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 periods, including averages.

Based upon this experience and future expectations, the Board has maintained the assumed rate of return of 7.25%.

CHART 11

Investment Return – Actuarial Value vs. Market Value: Years Ended September 30, 2007 – 2015 and Fifteen Months Ended December 31, 2016

	Actuarial Value Investment Return		Market Value Investment Return	
Period Ended	**Amount**	**Percent**	**Amount**	**Percent**
September 30:				
2007	$190,171,659	10.41%	$311,238,000	16.54%
2008	105,099,890	5.24	-292,269,000	-13.40
2009	69,854,353	3.33	-100,618,000	-5.36
2010	90,918,393	4.20	153,829,000	8.68
2011	86,867,409	3.87	54,976,000	2.87
2012	125,396,164	5.39	266,277,000	13.54
2013	152,230,272	6.23	248,187,404	11.17
2014	174,857,176	6.77	223,053,939	9.07
2015	139,532,809	5.10	-47,586,525	-1.79
December 31:				
2016*	167,460,723	6.15	287,674,638	10.87
Total	$1,302,388,848		$1,104,762,456	
	5¼-year average return	5.93%		8.18%
	10¼-year average return	5.63%		5.12%

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

* *The amounts for the period ended December 31, 2016 cover the 15 months from October 1, 2015 through December 31, 2016. The actuarial and market returns for the year ended December 31, 2016 were 5.99% and 9.26%, respectively.*

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.

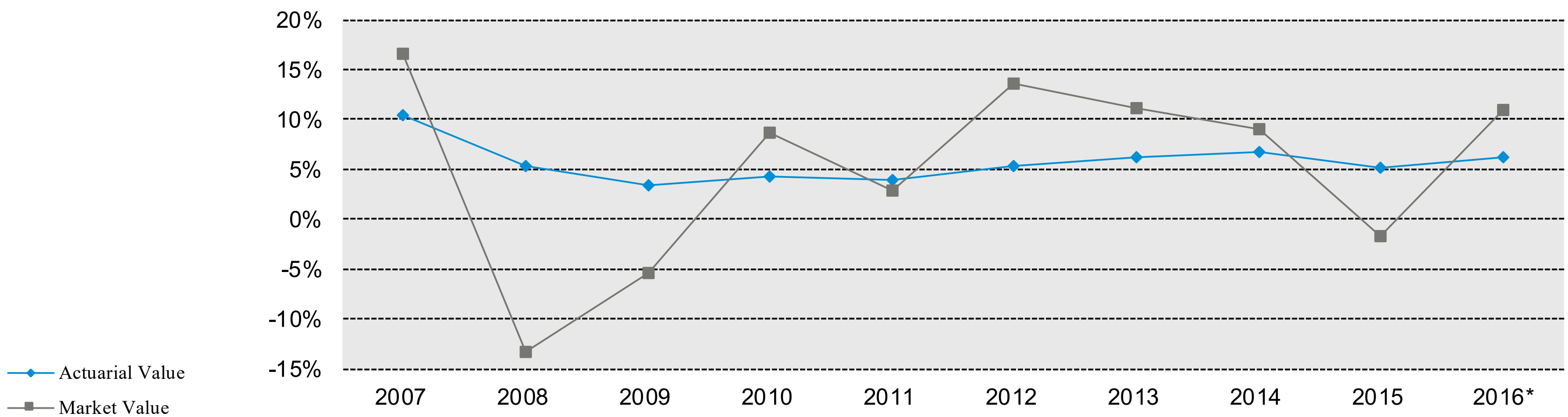
Administrative Expenses

Administrative expenses for the 15-month period ended December 31, 2016 totaled $3,568,003 compared to the assumption of $3,500,000 ($2,800,000 per year). This resulted in a loss of $36,759 when adjusted for timing. The actual expenses for the 2016 calendar year were $2,794,082. We have maintained the assumption of $2,800,000 for the current year.

This chart illustrates how this leveling effect has actually worked over the years 2007 - 2016.

CHART 12

Market and Actuarial Rates of Return for Periods Ended September 30, 2007 – 2015 and December 31, 2016



**The returns shown for 2016 reflect a 15-month period, due to the change in Plan Year from a September 30 year-end to a December 31 year-end.*

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,
- salary increases different than assumed, and
- inflationary cost-of-living adjustments higher or lower than anticipated.

The net gain from this other experience for the 15-month period ended December 31, 2016 amounted to $22,624,167, which is 0.7% of the actuarial accrued liability. A brief summary of the demographic gain experience of the Fund for the period ended December 31, 2016 is shown in the chart below.

The chart shows elements of the experience gain for the most recent year.

CHART 13

Experience Due to Changes in Demographics for Period Ended December 31, 2016

1.	Cost-of-living adjustment below assumed (CPI of 0.70% vs. inflation assumption of 3.00%)	$29,243,943
2.	Net impact of all other experience	-6,619,776
3.	Total	$22,624,167

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 projected payroll for active members to determine the funding rate of 31.48% of payroll.

The recommended contribution is based on an open 30-year amortization of the unfunded actuarial accrued liability as a level percentage of payroll. If legislative action is taken at some point in the future to fund the plan based on this calculation, Segal will recommend that the amortization period be closed to ensure that the unfunded actuarial liability is paid off.

As set by State legislature, the total amount of annual contributions is comprised of a 12.32% of pay member contribution and a 24.64% of pay City contribution for a total contribution of 36.96% of pay. Since the actuarially calculated contribution is 31.48% of payroll, there is a margin of 5.48% of pay.

The calculated normal cost (including expenses) is 24.31% of projected payroll after adjustment for timing. The remaining 12.65% of projected payroll will amortize the unfunded actuarial accrued liability over a period of 13.07 years if all assumptions are met. This is a reasonable amortization period, and complies with the Texas State

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

CHART 14

Recommended Contribution

	Year Beginning			
	January 1, 2017		October 1, 2015	
	Amount	% of Projected Payroll	Amount	% of Projected Payroll
1. Entry age normal cost	$71,160,884		$69,716,595	
2. Administrative expenses	2,703,705		2,703,705	
3. Total normal cost: (1) + (2), adjusted for timing	$76,542,180	24.31%	$75,045,536	24.15%
4. Actuarial accrued liability	3,385,806,423		3,218,382,810	
5. Actuarial value of assets	2,976,885,674		2,858,461,847	
6. Unfunded actuarial accrued liability: (4) - (5)	$408,920,749		$359,920,963	
7. Payment on unfunded actuarial accrued liability, adjusted for timing	22,578,438	7.17%	19,872,929	6.39%
8. Total recommended contribution: (3) + (7)*	$99,120,618	31.48%	$94,918,465	30.54%
9. Projected payroll	$314,841,593		$310,809,257	

**Recommended contributions are assumed to be paid at the middle of every year.*

Pension Review Board's Guidelines for Actuarial Soundness.

The contribution requirements as of January 1, 2017 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 15

Reconciliation of Recommended Contribution from October 1, 2015 to January 1, 2017

Recommended Contribution as of October 1, 2015	$94,918,465
Effect of investment loss	$5,070,522
Effect of other gains and losses on accrued liability	-1,282,406
Effect of contributions more than recommended contribution	-1,364,781
Effect of increase in projected payroll	1,231,475
Net effect of other changes	547,343
Total change	$4,202,153
Recommended Contribution as of January 1, 2017	$99,120,618

EXHIBIT A
Table of Plan Coverage

Category	Period Ended December 31, 2016	Period Ended September 30, 2015	Change From Prior Year
Active participants in valuation:			
Number	3,787	3,815	-0.7%
Average age	42.4	42.4	N/A
Average years of service	14.8	14.8	N/A
Total payroll	$304,194,776	$300,298,799	1.3%
Average payroll	80,326	78,715	2.0%
Total active vested participants	1,162	1,174	-1.0%
Retired participants:			
Number in pay status	2,086	1,944	7.3%
Average age	66.5	66.4	N/A
Average monthly benefit	$4,301	$4,203	2.3%
Disabled participants:			
Number in pay status	65	65	0.0%
Average age	65.0	64.4	N/A
Average monthly benefit	$2,638	$2,633	0.2%
Beneficiaries in pay status:			
Number in pay status	483	469	3.0%
Average age	72.4	72.3	N/A
Average monthly benefit	$3,153	$3,092	2.0%
Terminated participants with contributions remaining in the Fund	23	22	4.5%

EXHIBIT B-1

Participants in Active Service as of December 31, 2016 (Total)
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	56	56	- -	- -	- -	- -	- -	- -	- -	- -
	$56,416	$56,416	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	289	213	76	- -	- -	- -	- -	- -	- -	- -
	64,703	62,164	$71,820	- -	- -	- -	- -	- -	- -	- -
30 - 34	564	180	335	49	- -	- -	- -	- -	- -	- -
	70,095	64,127	72,357	$76,556	- -	- -	- -	- -	- -	- -
35 - 39	660	42	292	270	56	- -	- -	- -	- -	- -
	75,355	65,638	72,367	77,911	$85,903	- -	- -	- -	- -	- -
40 - 44	679	9	102	239	260	69	- -	- -	- -	- -
	81,107	64,145	72,525	78,370	85,157	$90,224	- -	- -	- -	- -
45 - 49	680	3	37	101	207	292	40	- -	- -	- -
	86,760	65,494	75,194	78,896	82,727	92,957	$94,546	- -	- -	- -
50 - 54	530	1	9	12	58	175	214	61	- -	- -
	91,556	70,972	76,592	82,933	84,039	89,177	94,741	$98,596	- -	- -
55 - 59	263	- -	- -	6	8	41	125	71	12	- -
	92,881	- -	- -	73,903	82,204	90,186	93,791	95,216	$95,396	- -
60 - 64	59	- -	- -	- -	4	8	17	15	12	3
	92,120	- -	- -	- -	81,622	91,878	95,532	90,828	93,295	$89,191
65 - 69	7	- -	- -	- -	- -	2	- -	3	1	1
	87,503	- -	- -	- -	- -	85,742	- -	92,742	85,397	77,417
Total	3,787	504	851	677	593	587	396	150	25	4
	$80,326	$62,589	$72,501	$78,175	$84,206	$91,276	$94,455	$96,102	$93,987	$86,247

EXHIBIT B-2

Participants in Active Service as of December 31, 2016 (Fire)
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	24	24	- -	- -	- -	- -	- -	- -	- -	- -
	$56,246	$56,246	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	117	87	30	- -	- -	- -	- -	- -	- -	- -
	62,243	59,810	$69,299	- -	- -	- -	- -	- -	- -	- -
30 - 34	282	108	152	22	- -	- -	- -	- -	- -	- -
	66,657	61,862	68,878	$74,859	- -	- -	- -	- -	- -	- -
35 - 39	355	27	158	141	29	- -	- -	- -	- -	- -
	73,341	64,847	69,836	75,910	$87,858	- -	- -	- -	- -	- -
40 - 44	330	- -	42	120	138	30	- -	- -	- -	- -
	80,347	- -	68,942	76,754	84,714	$90,598	- -	- -	- -	- -
45 - 49	219	- -	- -	31	103	68	17	- -	- -	- -
	83,646	- -	- -	76,902	80,994	89,427	$88,882	- -	- -	- -
50 - 54	193	- -	- -	- -	23	51	87	32	- -	- -
	89,215	- -	- -	- -	80,565	88,620	88,410	$98,568	- -	- -
55 - 59	111	- -	- -	- -	- -	3	63	37	8	- -
	90,545	- -	- -	- -	- -	96,203	90,444	89,722	$93,024	- -
60 - 64	19	- -	- -	- -	- -	- -	1	7	8	3
	86,830	- -	- -	- -	- -	- -	112,932	82,278	86,665	$89,191
65 - 69	2	- -	- -	- -	- -	- -	- -	- -	1	1
	81,407	- -	- -	- -	- -	- -	- -	- -	85,397	77,417
Total	1,652	246	382	314	293	152	168	76	17	4
	$77,107	$60,916	$69,314	$76,257	$83,392	$89,521	$89,366	$92,761	$89,583	$86,247

EXHIBIT B-3

Participants in Active Service as of December 31, 2016 (Police)
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 & over**
Under 25	32	32	- -	- -	- -	- -	- -	- -	- -
	$56,543	$56,543	- -	- -	- -	- -	- -	- -	- -
25 - 29	172	126	46	- -	- -	- -	- -	- -	- -
	66,377	63,790	$73,465	- -	- -	- -	- -	- -	- -
30 - 34	282	72	183	27	- -	- -	- -	- -	- -
	73,533	67,525	75,247	$77,939	- -	- -	- -	- -	- -
35 - 39	305	15	134	129	27	- -	- -	- -	- -
	77,699	67,062	75,351	80,097	$83,803	- -	- -	- -	- -
40 - 44	349	9	60	119	122	39	- -	- -	- -
	81,825	64,145	75,032	79,999	85,658	$89,936	- -	- -	- -
45 - 49	461	3	37	70	104	224	23	- -	- -
	88,240	65,494	75,194	79,780	84,443	94,028	$98,732	- -	- -
50 - 54	337	1	9	12	35	124	127	29	- -
	92,897	70,972	76,592	82,933	86,323	89,406	99,078	$98,626	- -
55 - 59	152	- -	- -	6	8	38	62	34	4
	94,586	- -	- -	73,903	82,204	89,711	97,193	101,194	$100,139
60 - 64	40	- -	- -	- -	4	8	16	8	4
	94,633	- -	- -	- -	81,622	91,878	94,444	98,310	106,557
65 - 69	5	- -	- -	- -	- -	2	- -	3	- -
	89,942	- -	- -	- -	- -	85,742	- -	92,742	- -
Total	2,135	258	469	363	300	435	228	74	8
	$82,817	$64,184	$75,096	$79,835	$85,002	$91,889	$98,205	$99,533	$103,348

EXHIBIT C

Reconciliation of Participant Data

	Active Participants	Retired Participants	Disableds	Beneficiaries	Total
Number as of October 1, 2015	3,815	1,944	65	469	6,293
New participants	180	N/A	N/A	N/A	180
Terminations without vested accruals	-10	N/A	N/A	N/A	-10
Retirements	-167	167	N/A	N/A	0
New disabilities	-1	N/A	1	N/A	0
Return to work	0	0	0	N/A	0
Deceased	-6	-45	-1	-29	-81
New beneficiaries	N/A	N/A	N/A	48	48
Lump sum payoffs	-24	0	0	0	-24
Payment period expired for dependent children	N/A	0	0	-5	-5
Data adjustments	0	3	0	0	3
QDRO adjustments*	0	17	0	0	17
Number as of January 1, 2017	3,787	2,086	65	483	6,421

**The data includes 18 new former spouses receiving benefit under qualified domestic relations orders (QDROs) and excludes one former spouse whose benefit was terminated during the year.*

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Period Ended December 31, 2016*		Year Ended September 30, 2015	
Net assets at actuarial value at the beginning of the year		$2,858,461,847		$2,752,286,963
Contribution income:				
Employer contributions	$94,972,075		$75,801,715	
Employee contributions	47,485,016		37,901,064	
Less administrative expenses	-3,568,003		-2,903,392	
Net contribution income		138,889,088		110,799,387
Investment income:				
Interest, dividends and other income	$79,470,483		$60,220,333	
Adjustment toward market value	104,324,565		93,899,939	
Less investment fees	-16,334,325		-14,587,463	
Net investment income		167,460,723		139,532,809
Total income available for benefits		$306,349,811		$250,332,196
Less benefit payments:				
Benefits	-$154,735,069		-$123,382,488	
BackDROP payments	-31,580,245		-20,072,011	
Refunds	-1,610,670		-702,813	
Net benefit payments		-$187,925,984		-$144,157,312
Change in reserve for future benefits		$118,423,827		$106,174,884
Net assets at actuarial value at the end of the year		$2,976,885,674		$2,858,461,847

**Represents the 15-month period October 1, 2015 - December 31, 2016.*

EXHIBIT E

Summary Statement of Income and Expenses on a Market Value Basis

	Period Ended December 31, 2016*		Year Ended September 30, 2015	
Net assets at market value at the beginning of the year		$2,595,910,683		$2,676,855,133
Contribution income:				
Employer contributions	$94,972,075		$75,801,715	
Employee contributions	47,485,016		37,901,064	
Less administrative expenses	-3,568,003		-2,903,392	
Net contribution income		138,889,088		110,799,387
Investment income:				
Interest, dividends and other income	$79,470,483		$60,220,333	
Asset appreciation	224,538,480		-93,219,395	
Less investment and administrative fees	-16,334,325		-14,587,463	
Net investment income		287,674,638		-47,586,525
Total income available for benefits		$426,563,726		$63,212,862
Less benefit payments:				
Benefits	-$154,735,069		-$123,382,488	
BackDROP payments	-31,580,245		-20,072,011	
Refunds	-1,610,670		-702,813	
Net benefit payments		-$187,925,984		-$144,157,312
Change in reserve for future benefits		$238,637,742		-$80,944,450
Net assets at market value at the end of the year		$2,834,548,425		$2,595,910,683

**Represents the 15-month period October 1, 2015 - December 31, 2016.*

EXHIBIT F
Summary Statement of Plan Assets

	Year Ended December 31, 2016		Year Ended September 30, 2015	
Cash equivalents		$121,827,171		$156,799,574
Accounts receivable:				
Sale of investments	$9,878,427		$8,129,035	
Accrued dividends and interest	3,982,930		4,927,176	
Contributions receivable	301,911		1,513,752	
Total accounts receivable		14,163,268		14,569,963
Investments:				
Equities	$1,623,308,390		$1,673,589,551	
Fixed income	775,132,642		631,874,222	
Real estate and real assets	385,604,570		255,853,376	
Property, plant and equipment	554,996		615,463	
Total investments at market value		2,784,600,598		2,561,932,612
Total assets		$2,920,591,037		$2,733,302,149
Less accounts payable:				
Securities lending cash collateral	-$74,048,708		-$111,932,611	
Payables	-11,751,352		-25,205,357	
Expenses	-242,552		-253,498	
Total accounts payable		-$86,042,612		-$137,391,466
Net assets at market value		$2,834,548,425		$2,595,910,683
Net assets at actuarial value		$2,976,885,674		$2,858,461,847

EXHIBIT G

Development of the Fund Through December 31, 2016

Period Ended	Employer Contributions	Employee Contributions	Net Investment Return[1]	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
September 30:						
2007	$54,952,000	$27,476,000	$190,171,659	--	$79,130,000	$2,017,855,516
2008	58,101,000	29,050,000	105,099,890	--	114,031,000	2,096,075,406
2009	62,344,000	31,172,000	69,854,353	--	92,522,000	2,166,923,759
2010	64,498,000	34,849,000	90,918,393	--	106,640,000	2,250,549,152
2011	67,328,000	33,663,000	86,867,409	$2,728,000	105,159,000	2,330,520,561
2012	70,389,000	35,193,000	125,396,164	2,747,000	111,164,000	2,447,587,725
2013	73,255,620	36,629,009	152,230,272	2,714,633	118,680,884	2,588,307,109
2014	76,145,635	38,072,618	174,857,176	2,789,578	122,305,997	2,752,286,963
2015	75,801,715	37,901,064	139,532,809	2,903,392	144,157,312	2,858,461,847
December 31:						
2016[2]	94,972,075	47,485,016	167,460,723	3,568,003	187,925,984	2,976,885,674

[1] *Net of investment fees. Years prior to 2011 are also net of administrative expenses.*
[2] *The Plan Year has changed from October 1 to January 1, and this row reflects a 15-month period from October 1, 2015 through December 31, 2016.*

EXHIBIT H

Development of Unfunded Actuarial Accrued for 15-Month Period Ended December 31, 2016

		12-Month Period Ended December 31, 2016		3-Month Period Ended December 31, 2015
1. Unfunded actuarial accrued liability at beginning of period		$356,098,078		$359,920,963
2. Normal cost at beginning of period		73,053,978		18,105,075
3. Total contributions		-113,935,882		-28,521,209
4. Interest				
(a) For whole period on (1) + (2)	$31,113,524		$6,851,722	
(b) For half period on (3)	-4,130,176		-258,473	
(c) Total interest		26,983,348		6,593,249
5. Expected unfunded actuarial accrued liability		$342,199,522		$356,098,078
6. Changes due to net experience loss		66,721,227		
7. Unfunded actuarial accrued liability at end of period		$408,920,749		

EXHIBIT I
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.

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 483 beneficiaries in pay status)		2,634
2.	Participants active during the year ended December 31, 2016		3,787
	Fully vested	1,162	
	Not vested	2,625	
3.	Terminated participants due a refund		23

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

1.	Normal cost, including administrative expenses, adjusted for timing		$76,542,180
2.	Actuarial accrued liability		3,385,806,423
	Retired participants and beneficiaries	$1,784,355,704	
	Active participants	1,599,916,388	
	Terminated participants due a refund	1,534,331	
3.	Actuarial value of assets ($2,834,548,425 at market value as reported by the Fund Office)		2,976,885,674
4.	Unfunded actuarial accrued liability		$408,920,749

The determination of the recommended contribution is as follows:

1.	Entry age normal cost	$71,160,884
2.	Administrative expenses	2,703,705
3.	Total normal cost: (1) + (2), adjusted for timing	$76,542,180
4.	Payment on unfunded actuarial accrued liability, adjusted for timing	22,578,438
5.	Total recommended contribution: (3) + (4)	$99,120,618
6.	Projected payroll	$314,841,593
7.	Total recommended contribution as a percentage of projected payroll: (5) ÷ (6)	31.48%

EXHIBIT II

History of Employer Contributions

Plan Year Ended	Actuarially Determined Employer Contributions (ADEC)*	Actual Contributions	Percentage Contributed
September 30:			
2008	$58,101,000	$58,101,000	100.0%
2009	62,344,000	62,344,000	100.0%
2010	64,498,000	64,498,000	100.0%
2011	67,328,000	67,328,000	100.0%
2012	70,389,000	70,389,000	100.0%
2013	73,255,620	73,255,620	100.0%
2014	76,145,635	76,145,635	100.0%
2015	75,801,715	75,801,715	100.0%
December 31:			
2015 (3 months)	19,014,166	19,014,166	100.0%
2016	75,957,909	75,957,909	100.0%
2017	77,576,969	- -	- -

**Determined based on statutory employer rate of 24.64% of pay. Prior to 2015, this amount was the Annual Required Contribution (ARC).*

EXHIBIT III

Schedule of Funding Progress

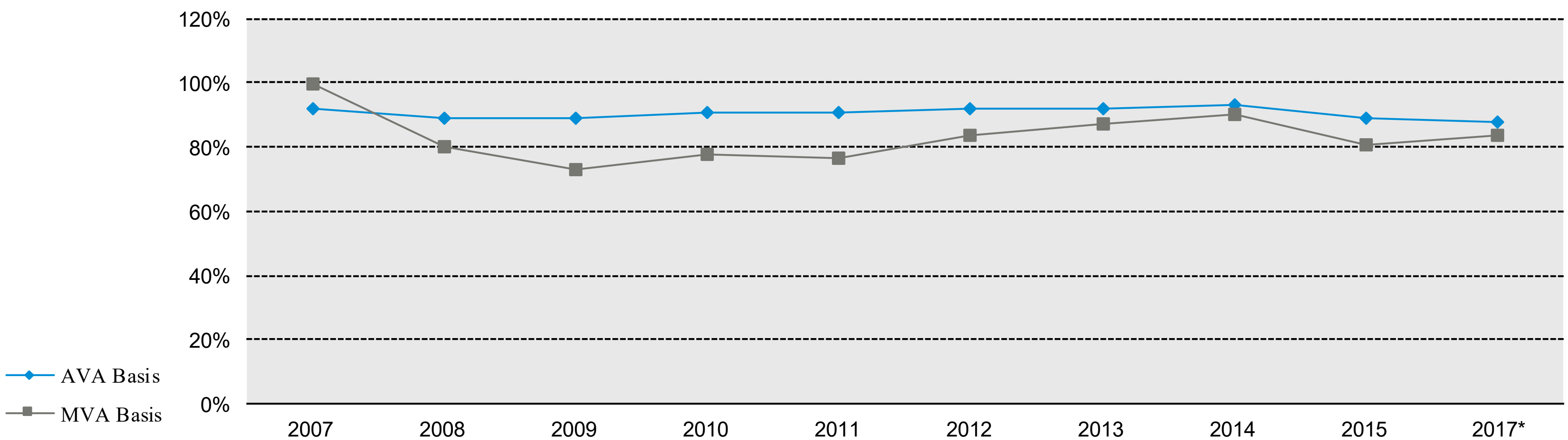
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
10/01/2007	$2,017,855,516	$2,200,851,208	$182,995,692	91.69%	$229,547,290	79.72%
10/01/2008	2,096,072,310	2,350,132,074	254,059,764	89.19%	243,904,403	104.16%
10/01/2009	2,166,923,759	2,442,620,119	275,696,360	88.71%	269,359,097	102.35%
10/01/2010	2,250,549,152	2,481,623,716	231,074,564	90.69%	271,533,499	85.10%
10/01/2011	2,330,520,561	2,573,261,950	242,741,389	90.57%	286,326,700	84.78%
10/01/2012	2,447,587,725	2,662,264,359	214,676,634	91.94%	293,665,442	73.10%
10/01/2013	2,588,307,109	2,821,195,803	232,888,694	91.75%	306,055,572	76.09%
10/01/2014	2,752,286,963	2,962,238,443	209,951,480	92.91%	317,965,637	66.03%
10/01/2015	2,858,461,847	3,218,382,810	359,920,963	88.82%	310,809,257	115.80%
01/01/2017	2,976,885,674	3,385,806,423	408,920,749	87.92%	314,841,593	129.88%

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 a market (MVA) basis, the funded ratio declined significantly with the 2008 market downturn, and gradually rebounded until the assumption changes and investment loss in 2015. On an actuarial (AVA) basis, the ratio has been very consistent, between 88% and 93%.



**The funded ratios shown are as of October 1 except for 2017, which is as of January 1 due to a change in the Fund's Plan Year.*

EXHIBIT V
Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions:	The assumptions and methods upon which this valuation is based were set by the Board of Trustees, based on recommendations by Segal Consulting following a five-year experience study for the period ended September 30, 2014. The information and analysis used in selecting each assumption are shown in that experience study report. Assumptions are generally reviewed and updated on a five-year cycle. Based on professional judgment, no changes are required at this time.
Mortality Rates:	
Pre-retirement:	RP-2014 Employee Mortality Table, with rates loaded by 7% for females, projected generationally using 50% of Scale MP-2014
Healthy annuitants:	RP-2014 Healthy Annuitant Mortality Table, with rates loaded by 7% for females, projected generationally using 50% of Scale MP-2014
Disabled annuitants:	RP-2014 Healthy Annuitant Mortality Table, set forward six years, with rates loaded by 7% for females, projected generationally using 50% of Scale MP-2014
	The tables above, with adjustments as shown, reasonably reflect the mortality experience of the Fire and Police Pension Fund as of the measurement date. The mortality tables were then generationally projected using 50% of Scale MP-2014 to reflect future mortality improvement.
Duty Death Percentages:	10% of deaths are assumed to be in the line of duty

Termination Rates before Retirement:

	Rate (%)					
	Mortality*		Disability		Withdrawal	
Age	Male	Female	Fire	Police	Fire	Police
20	0.04	0.02	0.01	0.02	0.25	1.00
25	0.05	0.02	0.01	0.03	0.25	1.00
30	0.05	0.02	0.01	0.03	0.25	0.80
35	0.05	0.03	0.01	0.04	0.25	0.80
40	0.06	0.04	0.02	0.07	0.25	0.60
45	0.10	0.07	0.04	0.11	0.25	0.60
50	0.17	0.12	0.00	0.00	0.00	0.00
55	0.28	0.18	0.00	0.00	0.00	0.00
60	0.47	0.26	0.00	0.00	0.00	0.00

**Rates shown do not include generational projection*

Catastrophic Disability: 0% of disabilities are assumed to be catastrophic

Retirement Rates:

Fire		Police	
Years of Service	Rate%	Years of Service	Rate%
20 - 24	1.5%	20 - 21	1.5%
25 - 28	2.5	22 - 24	2.0
29	5.0	25	3.0
30	10.0	26	5.0
31	20.0	27	7.0
32	25.0	28	9.0
33 - 37	35.0	29	14.0
38 - 39	25.0	30	20.0
40	100.0	31 - 32	25.0
		33	40.0
		34 - 39	50.0
		40	100.0

At age 65, the rate is assumed to be 100%.

Description of Weighted Average Retirement Age:	Age 59.3 for Firefighters and 58.1 for Police Officers, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active participants included in the January 1, 2017 actuarial valuation.
Percent Married:	90%
Age of Spouse:	Females three years younger than males
Marriage after Retirement:	The retiree liability includes a 0.35% load and the disability liability includes a 0.80% load to account for unmarried retirees marrying after retirement.
Beneficiary Liability:	The spousal beneficiary liability includes a 2% load to account for future increased spousal benefits when dependent children receiving benefits reach the age of majority and are no longer eligible to receive benefits.
Net Investment Return:	7.25%, net of investment expenses The net investment return assumption was chosen by the Pension Fund'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 Plan's target asset allocation.
Administrative Expenses:	$2,800,000 payable mid-year for the year beginning January 1, 2017 (equivalent to $2,703,705 payable at the beginning of the year.)
Payroll Growth:	3.50% (used to amortize the unfunded actuarial accrued liability as a percentage of payroll)

Salary Increases:

Years of Service	Rate (%)
1	14.25%
2	11.25
3	6.25
4	5.75
5	5.25
6	4.75
7-9	4.25
10 or more	3.75

Includes an underlying 3.00% inflation component.

Cost-of-living adjustment:

Retirement before October 1, 1999: 3.00%

Retirement on or after October 1, 1999: 2.25%

Actuarial Value of Assets: Roll forward prior year's actuarial value with contributions, disbursements and expected return on investments, plus 20% of the difference between that expected actuarial value of assets and the current market value.

Actuarial Cost Method: Entry Age Normal Actuarial Cost Method. Entry Age is age at the member's hire date. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation.

Utilization of BackDROP:	95% of retiring Firefighters and new beneficiaries are assumed to elect a four-year BackDROP. Firefighters who retire prior to 24 years of service are not assumed to utilize the BackDROP provisions of the plan. 75% of retiring Police Officers and new beneficiaries 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.
13th and 14th Checks:	No future Board actions assumed. This is an asymmetric benefit, payable only if the Fund's investment experience is favorable. Currently the amount of one additional check is approximately 0.3% of the total liability of the Fund. Therefore, it is assumed that the active liabilities should be loaded by 0.03% and the non-active liabilities by 0.1% as an estimate for future payment.
Sick Leave:	For purposes of calculating Fund benefits, total service at decrement is increased by 1.0% for Firefighters and 0.2% for Police Officers to recognize inclusion of sick leave.
Changes in Assumptions:	There have been no changes in actuarial assumptions since the last valuation.

EXHIBIT VI

Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan 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:	January 1 through December 31
Plan Status:	Ongoing
Normal Retirement:	
Service Requirement:	20 years of service and contributions, regardless of age
Amount:	2.25% of Average Salary for each of the first 20 years of service, plus 5.00% of Average Salary for each of the next 7 years of service, plus 2.00% of Average Salary for each of the next 3 years of service, plus 0.50% of Average Salary for each year of service thereafter, with a maximum benefit percentage of 87.50%.
Average Salary:	The average of the highest three years of annual salary during the five-year period ending on the date of retirement.
Disability:	
Eligibility:	Immediately eligible upon membership, payable after 30 days of continuous disability
Amount:	50% of Average Salary
Catastrophic Injury Disability:	
Eligibility:	Be unable to secure any type of third-party employment, or engage in any self-employment, and as a result make an annual income below the poverty level.
Amount:	87.50% of Average Salary

Termination Benefits:	No benefits are vested prior to eligibility for disability or normal retirement benefits, or at death. However, a participant may receive a refund of member contributions without interest.
Survivor's Pre-Retirement Death Benefit (death not in line of duty):	
Eligibility:	Immediately upon membership
Amount:	*Spouse* – Participant's accrued benefit, with a minimum of 50% of average salary and a maximum based on 27 years of service. 25% of the benefit is paid to the children who are under age 18 or disabled, if any, divided equally among them. *Children only (under age 18, or disabled)* – Participant's accrued benefit, with a minimum of 50% of average salary and a maximum based on 27 years of service. Benefits are divided equally among the children. *Dependent parents, no wife or children* – 33% of Average Salary, if two; 25% if one. *No dependents* – Lump sum equal to ten times the accrued retirement benefit based on service and salary at time of death, or a refund of member contributions, if greater. *Wholly-dependent orphaned children* – 100% of the surviving spouse's benefit for life.
Survivor's Pre-Retirement Death Benefit (death in line of duty):	
Eligibility:	Immediately upon membership
Amount:	Surviving spouse and dependent children will receive a total pension equal to the salary, including longevity pay, of the member at the time of death.
Cost-of-Living Adjustments:	If retirement was before October 1, 1999, the benefits are adjusted annually by 100% of the CPI, provided the index shows an increase, if the percentage increase is 8% or less. If the increase is more than 8%, the benefits shall be increased by 8% plus a percentage equal to 75% of the percentage increase that is more than 8%. If retirement is on or after October 1, 1999, benefits are adjusted by 75% of the CPI.
13th and 14th Pension Checks:	The Board may authorize the disbursement of a 13th pension check in a year in which the arithmetic average of the annual rates of return for the most recent five years exceeds the assumed rate by at least 100 basis points. A 14th check may be authorized if the five-year average return exceeds the assumed rate by at least 300 basis points.

Post-Retirement Death Benefit:

Amount:	Percentage of Average Salary available for retirement benefit, with a maximum benefit based on 27 years of service, with the percentage based on the formula in effect on the date of the retiree's death minus Back DROP period; maximum benefit equal to benefit being received by retiree at death. For marriages after retirement if the widow was married less than five years a lump sum of $15,000 is payable and if the widow was married at least five years than the widow is eligible for the entire death benefit of a surviving spouse starting at age 55.

BackDROP:

Eligibility:	Participants who are eligible to retire may elect a BackDROP. (Not applicable to line-of-duty or disability). The surviving spouse of an active member may elect a BackDROP, but the service upon which the spousal BackDROP benefit is based may not exceed 27 years of service.
Amount:	The backward deferred retirement option plan (BackDROP) benefit provides a lump sum payment based on pay and service as of the BackDROP retirement date times the number of months elected in exchange for a reduced monthly benefit. The monthly benefit is based on pay and all service as of the BackDROP retirement date plus sick leave credit.
BackDROP Retirement Date:	Actual retirement date minus number of months elected. The number of months cannot exceed the lesser of 60 months or the number of months of service in excess of 20 years.

Contributions:

Member contributions:	Members pay 12.32% of total salary, excluding overtime pay
City contributions:	The City pays 24.64% of total salary, excluding overtime pay

Changes in Plan Provisions: There have been no changes in plan provisions since the last valuation.