City of Fresno Fire and Police Retirement System

Actuarial Valuation and Review
as of June 30, 2014

This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal Consulting

100 MONTGOMERY STREET, SUITE 500 SAN FRANCISCO, CA 94104
T 415.263.8200 www.segalco.com

November 19, 2014

Board of Retirement
City of Fresno Fire and Police Retirement System
2828 Fresno Street, Suite 201
Fresno, California 93721-1327

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2014. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal year 2015-2016 and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the City of Fresno Fire and Police Retirement System. The census information and financial information on which our calculations were based was prepared by the Retirement System. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary.

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 end of an amortization period); and changes in plan provisions or applicable law.

The actuarial calculations were directed under our supervision. We are Members of the American Academy of Actuaries and we meet 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 Retirement 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:

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

Andy Yeung, ASA, MAAA, FCA, EA
Vice President and Associate Actuary

JB/gxk

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

SECTION 1: Valuation Summary for the City of Fresno Fire and Police Retirement System

Purpose

This report has been prepared by The Segal Company to present a valuation of the City of Fresno Fire and Police Retirement System as of June 30, 2014. 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 Retirement System, as administered by the Board of Retirement;
- The characteristics of covered active members, DROP participants, inactive vested members, and retired members and beneficiaries as of June 30, 2014, provided by the Retirement System;
- The assets of the System as of June 30, 2014, provided by the Retirement System;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the Retirement System's liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

As of June 30, 2014, there is an actuarial surplus (or prefunded actuarial accrued liability) as the System has valuation value of assets that are in excess of 110% of the actuarial accrued liability. The actuarial surplus in the Retirement System is used to reduce the City's contribution and to provide a Post Retirement Supplemental Benefit (PRSB). The allocation of surplus is provided in Appendix B of this report.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Retirement System's assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the Retirement System's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with the prior year's information.

The contribution requirements are determined as a percentage of payroll. The System's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. Any change in the unfunded actuarial accrued liability (UAAL) that arises due to actuarial gains or losses or due to plan amendments at each valuation is amortized over its own declining 15-year period (with the exception of a change due to temporary retirement incentives which is amortized over its own declining period of up to 5 years). Any change in UAAL that arises from changes in actuarial assumptions or methods will be amortized over its own declining 25-year period. When there is any "actuarial surplus" (the funded ratio is over 110%), the portion of surplus in excess of 110% will be amortized over a non-declining 25-year period.

Please note that the Actuarial Standards Board has adopted Actuarial Standard of Practice (ASOP) No. 4 that provides guidance that actuaries have to follow when valuing pension liabilities. For a plan such as that offered by the Retirement System that utilizes the actuarial surplus to provide contribution rate offsets and a PRSB benefit, we are required to indicate in the valuation report that the impact of the application of the actuarial surplus on the future financial condition of the plan has not been explicitly measured in the valuation. However, under revisions made to ASOP No. 4 that will become effective starting with the next valuation as of June 30, 2015, we have to consider using alternative procedures (such as stochastic modeling) for "gain sharing provisions that trigger benefit increases when investment returns are favorable but do not trigger benefit decreases when investment returns are unfavorable." We will report back to the Board before the 2015 valuation on whether we believe the System's actuarial surplus distribution provisions would fall under the new requirements of ASOP No. 4.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2015 through June 30, 2016.

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

Reference: Pg. 36

- In the June 30, 2013 valuation, the ratio of the valuation value of assets to actuarial accrued liabilities was 106.4%. In this June 30, 2014 valuation, the funding ratio has increased to 113.6%. The funding ratios as of June 30, 2013 and 2014 if measured using the market value of assets instead of the valuation value of assets are 108.5% and 124.4%, respectively.

Reference: Pg. 29

- The Retirement System's prefunded actuarial accrued liability (PAAL) as of June 30, 2013 was $63.6 million. In this year's valuation, the PAAL has increased to $136.6 million on a valuation value of assets basis. The Plan had a net actuarial experience gain of about $72.7 million. A reconciliation of the System's PAAL is provided in Section 3, Exhibit H.

- This valuation continues the three-year phase-in of the impact of the 2013 changes in assumptions on the employer contribution rate that began with fiscal year 2014/2015. Contributions established in this valuation for 2015/2016 reflect the second year, or 66 ⅔% of the final employer contribution rate impact (excluding interest). The employer should be aware that their contributions for 2016/2017 (that will be established in the June 30, 2015 valuation) will increase again due to the third and final year of recognition of the cost impact of these changes in assumptions. (It should be noted that we have continued to apply the phase-in to reduce the employer rates even though with the reemergence of the actuarial surplus, the contribution rates determined in this valuation are less than those of the June 30, 2012 valuation, i.e., before the new actuarial assumptions were used to calculate the higher contribution rates in the June 30, 2013 valuation.)

Reference: Pg. 15

- If we repeat the historical procedure that the Retirement System has used in the past when there was actual surplus in the fiscal year immediately following the date of the valuation (in this case 2014/2015) and projected surplus in the fiscal year

thereafter (in this case 2015/2016), the aggregate employer rate calculated in this valuation has decreased from 20.83% of payroll as of June 30, 2013 to 17.54% of payroll as of June 30, 2014. This is a net result of: (i) the difference between the actual and the estimated 2014/2015 plan year contributions after taking into account surplus available as of June 30, 2014, (ii) the contribution offset available for the 2015/2016 plan year based on a projection of the surplus from June 30, 2014 to June 30, 2015, and (iii) changes in membership demographics, offset somewhat by (iv) phasing in another one-third of the impact on contributions from the 2013 changes in actuarial assumptions. We believe that the historical procedure has been established without anticipating that actuarial surplus would reemerge (such as what happened between the 2013 and 2014 valuations) and has the indirect consequence of applying the "double" amount of surplus in one fiscal year (see items (i) and (ii) above).

However, this historical procedure may not have anticipated that when actuarial surplus reemerges after a period of no distributable surplus (as happened between the 2013 and 2014 valuations) it would have the effect of applying a double amount of surplus in one fiscal year (see items (i) and (ii) above). For that reason and after discussion with the Retirement System staff, we believe that it would be more reasonable to only apply the actual surplus as of June 30, 2014 (see item (i)) in preparing the City's contribution rates for 2015/2016. The City's contribution rates prepared using this procedure, which is jointly recommended by the Retirement System staff and Segal, is also provided in this report. Under that recommended procedure, the City's contribution rate would decrease from 20.83% of payroll as of June 30, 2013 to 20.14% of payroll as of June 30, 2014. (It should be noted that the recommended procedure is also more consistent with the historical practice of utilizing actual June 30, 2014 surplus to provide PRSB benefits for calendar year 2015.) A reconciliation of the Retirement System's aggregate employer rate is provided in Section 2, Subsection D (see Chart 14).

Reference: Pg. 16

- The aggregate member rate calculated in this valuation has decreased from 8.95% of payroll to 8.94% of payroll. The change in the aggregate member rate is due to changes in member demographics. A reconciliation of the Retirement System's aggregate member rate is provided in Section 2, Subsection D (see Chart 15). After around February 2011, active members who signed up for the DROP are required to continue their employee contributions; however, those contributions are deposited into the members' DROP accounts and therefore not available to fund the value of the retirement benefit earned up to the date of the DROP. Therefore, those contributions that will be deposited into the DROP accounts are disregarded in this valuation.

Reference: Pg. 6

- As indicated in Section 2, Subsection B (see Chart 7) of this report, the total unrecognized investment gain as of June 30, 2014 is $108.4 million (as compared to an unrecognized gain of $20.9 million in the June 30, 2013 valuation). This deferred investment gain will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years.
- The unrecognized investment gains of $108.4 million represent 8% of the market value of assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the $108.4 million market gains is expected to have an impact on the System's future funded ratio and the aggregate employer contributions. To illustrate this potential impact, if the deferred investment gains were recognized immediately in the valuation value of assets:

- the funded percentage would increase from 113.6% to 124.4%, and
- the aggregate employer contribution rate for 2015/2016 would decrease from 20.14% of payroll to 15.67% of payroll under the recommended procedure.

➢ The actuarial valuation report as of June 30, 2014 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the Plan, while increases will decrease the actuarial cost of the Plan.

➢ The Governmental Accounting Standards Board (GASB) approved two new Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. The information needed to comply with both Statements 67 and 68 will be provided in separate reports.

Impact of Future Experience on Contribution Rates

Future contribution requirements may differ from those determined in the valuation because of:

1) difference between actual experience and anticipated experience;
2) changes in actuarial assumptions or methods;
3) changes in statutory provisions; and
4) difference between the contribution rates determined by the valuation and those adopted by the Board.

Summary of Key Valuation Results (Dollar amounts in thousands)

	June 30, 2014 Prepared using Recommended Procedure		June 30, 2014 Prepared using Historical Procedure		June 30, 2013	
Employer Contribution Rates:	Total Rate	Estimated Annual Amount [1]	Total Rate	Estimated Annual Amount [1]	Total Rate	Estimated Annual Amount [1]
Tier 1 Normal Cost Rate	26.88%	$3,499	26.88%	$3,499	27.80%	
Tier 2 Normal Cost Rate	22.07%	19,168	22.07%	19,168	22.09%	
All Categories Combined	22.70%	22,667	22.70%	22,667	22.91%	$22,880
Surplus Offset	-1.48%	-1,480	-2.48%	-2,478	0.00%	0
Contribution (Excess)/Shortfall from Prior Fiscal Year	-0.09%	-90	-1.69%	-1,684	-0.09%	-90
Adjustment for Phase-In of Assumption Changes	-0.99%	-989	-0.99%	-989	-1.99%	-1,987
Required Contributions	20.14%	$20,108	17.54%	$17,516	20.83%	$20,803
Average Member Contribution Rates:	Total Rate	Estimated Annual Amount [2]	Total Rate	Estimated Annual Amount [2]	Total Rate	Estimated Annual Amount [2]
Tier 1	5.15%	$65	5.15%	$65	5.35%	$68
Tier 2	9.00%	7,608	9.00%	7,608	9.00%	7,608
All Categories Combined	8.94%	7,673	8.94%	7,673	8.95%	7,676
Funded Status:						
Actuarial Accrued Liability		$1,006,028		$1,006,028		$997,836
Valuation Value of Assets (VVA)		1,142,649		1,142,649		$1,061,399
Market Value of Assets (MVA) [3]		1,251,026		1,251,026		$1,082,336
Funded Percentage on VVA basis		113.6%		113.6%		106.4%
Prefunded Actuarial Accrued Liability on VVA basis		$136,621		$136,621		$63,563
Funded Percentage on MVA basis		124.4%		124.4%		108.5%
Prefunded Actuarial Accrued Liability on MVA basis		$244,998		$244,998		$84,500
Key Economic Assumptions:						
Interest Rate		7.50%		7.50%		7.50%
Inflation Rate		3.25%		3.25%		3.25%
Across-the-Board Salary Increase		0.50%		0.50%		0.50%

[1] Based on projected fiscal year 2015-2016 annual payroll for active non-DROP and DROP members of $99,869.

[2] Based on projected fiscal year 2015-2016 annual payroll for members not in the DROP of $85,802.

[3] Excludes non-valuation reserves.

Summary of Key Valuation Demographic and Financial Data

	June 30, 2014	June 30, 2013	Percentage Change
Active Members:			
Non-DROP			
Number of members	872	893	-2.4%
Average age	40.8	40.3	N/A
Average service	12.4	11.9	N/A
Projected total compensation [1]	$82,701,177	$87,164,227	-5.1%
Average projected compensation	$94,841	$97,608	-2.8%[5]
DROP			
Number of members	126	122	3.3%
Average age	55.6	55.2	N/A
Average service	23.8	24.2	N/A
Projected total compensation [1]	$13,557,816	$13,540,941	0.1%
Average projected compensation	$107,602	$110,991	-3.1%[5]
Retired Member and Beneficiaries:			
Number of members:			
Service retired	346	355	-2.5%
Disability retired	368	359	2.5%
Beneficiaries	264	254	3.9%
Total	978	968	1.0%
Average age	66.7	66.6	N/A
Average monthly benefit [2]	$3,597	$3,612	-0.4%
Vested Terminated Members:			
Number of vested terminated members [3]	69	60	15.0%
Average age	41.4	40.8	N/A
Summary of Financial Data (dollar amounts in thousands):			
Market value of assets [4]	$1,366,922	$1,193,054	14.6%
Return on market value of assets	17.12%	13.19%	N/A
Actuarial value of assets	$1,258,545	$1,172,117	7.4%
Return on actuarial value of assets	9.88%	8.07%	N/A
Valuation value of assets	$1,142,649	$1,061,399	7.7%
Return on valuation value of assets	9.35%	7.57%	N/A

[1] June 30, 2013 payroll was projected payroll for plan year 2013-2014. June 30, 2014 payroll was projected payroll for plan year 2014-2015.

[2] Excludes supplemental benefits (if any) paid from PRSB and benefits derived from DROP account balances.

[3] Includes terminated members due a refund of member contributions.

[4] Includes non-valuation reserves.

[5] There was a delay in the recognition of lower than expected salary increases from 2011/2012 to 2012/2013 because salaries reported in the June 30, 2013 valuation had 27 pay periods.

A. MEMBER DATA

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

This section presents a summary of significant statistical data on these member 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 member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2005 – 2014

Year Ended June 30	Active Members [1]	Vested Terminated Members [2]	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2005	1,065	31	797	0.78
2006	1,097	44	819	0.79
2007	1,130	69	847	0.81
2008	1,182	73	856	0.79
2009	1,164	76	865	0.81
2010	1,135	57	902	0.84
2011	1,071	53	948	0.93
2012	1,055	50	960	0.96
2013	1,015	60	968	1.01
2014	998	69	978	1.05

[1] *Includes DROP members.*

[2] *Includes terminated* members *due a refund of member contributions.*

Non-DROP Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 872 non-DROP active members with an average age of 40.8 years, average years of service of 12.4 and average compensation of $94,841. The 893 non-DROP active members in the prior valuation had an average age of 40.3 years, average years of service of 11.9 and average compensation of $97,608.

Inactive Members

In this year's valuation, there were 69 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 60 in the prior valuation

These graphs show a distribution of non-DROP active members by age and by years of service.

CHART 2

Distribution of Non-DROP Active Members by Age as of June 30, 2014

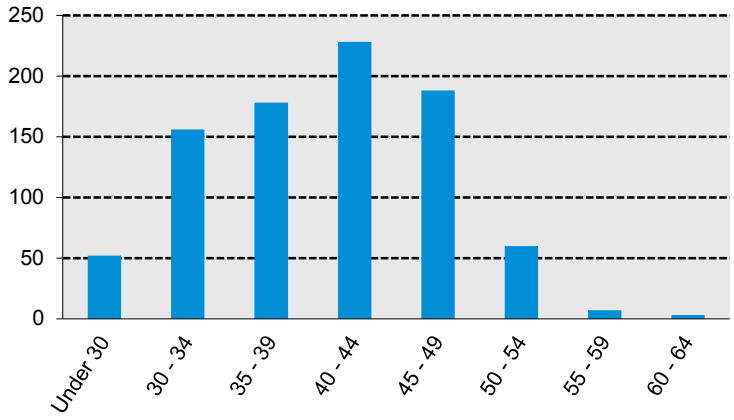
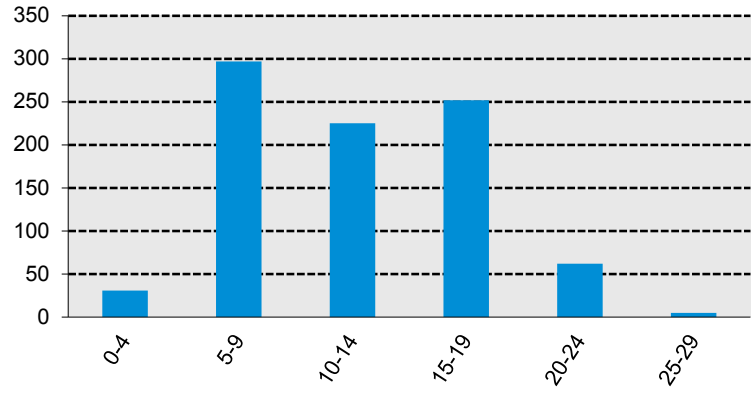


CHART 3

Distribution of Non-DROP Active Members by Years of Service as of June 30, 2014



DROP Active Members

In this year's valuation, there were 126 DROP active members with an average age of 55.6 years, average years of service of 23.8 and average compensation of $107,602. The 122 DROP active members in the prior valuation had an average age of 55.2 years, average years of service of 24.2 and average compensation of $110,991.

Retired Members and Beneficiaries

As of June 30, 2014, 714 retired members and 264 beneficiaries were receiving total monthly benefits of $3,517,876. For comparison, in the previous valuation, there were 714 retired members and 254 beneficiaries receiving monthly benefits of $3,496,894.

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

CHART 4

Distribution of Retired Members (Excl. Beneficiaries) by Type and by Monthly Amount as of June 30, 2014

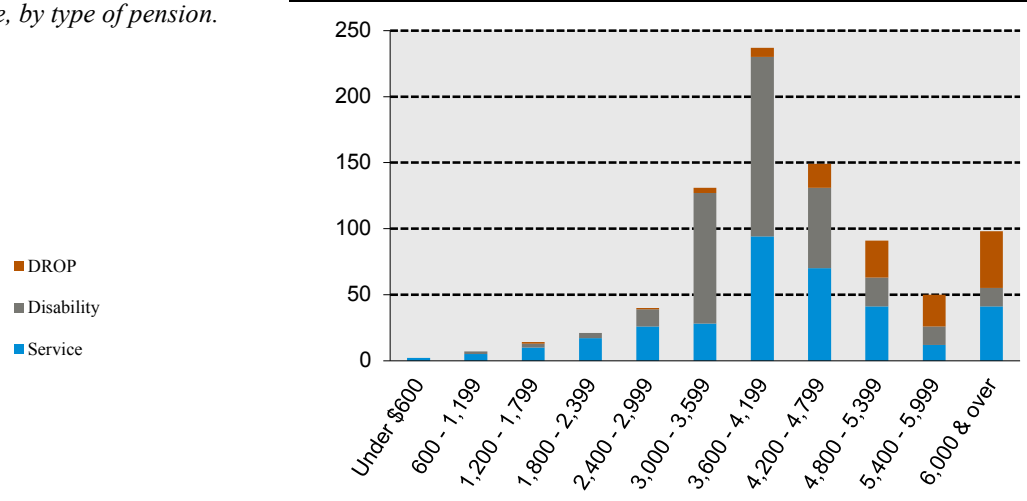
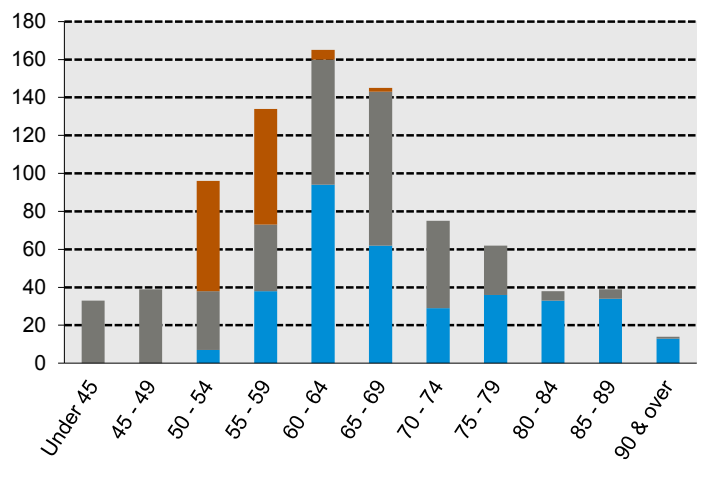


CHART 5

Distribution of Retired Members (Excl. Beneficiaries) by Type and by Age as of June 30, 2014



B. FINANCIAL INFORMATION

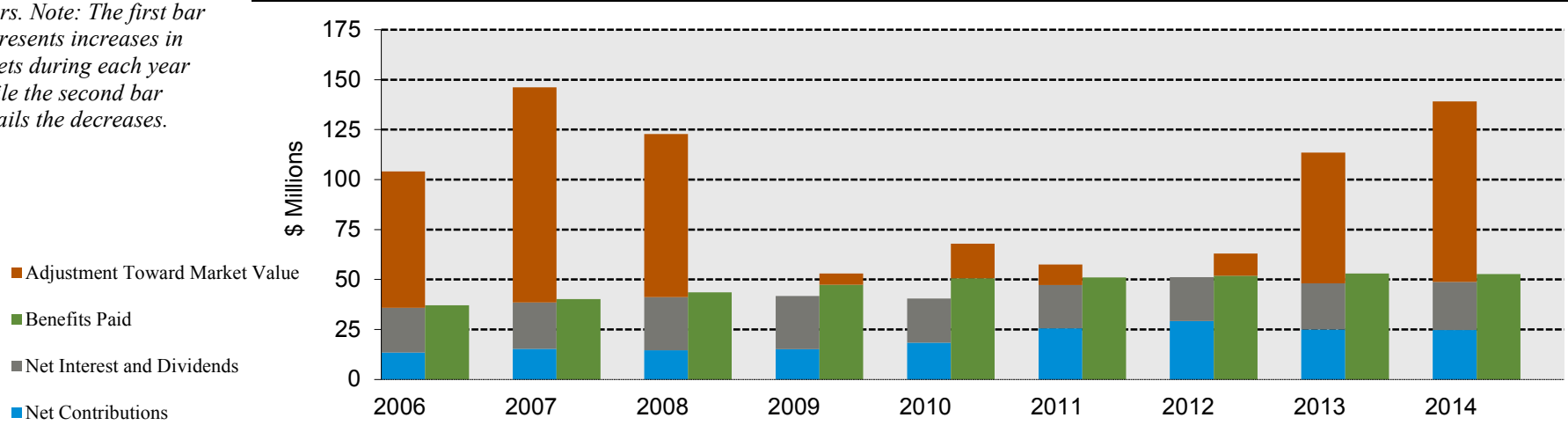
Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the "non-cash" earnings on investments implicitly included in the actuarial value of assets. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D and E.

The chart depicts the components of changes in the actuarial value of assets over the last nine 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, 2006-2014



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement 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 of assets.

The determination of the Actuarial and Valuation Value of Assets are provided on the following page.

CHART 7

Determination of Actuarial and Valuation Value of Assets for Year Ended June 30, 2014

Plan Year Ending June 30	Total Actual Market Return	Expected Return	Investment Gain/(Loss) [2]	Deferred Factor	Deferred Return
2012 [1]			$(31,168,873)	0.5	$(15,584,437)
2013	$140,701,338	$85,309,840	55,391,498	0.6	33,234,899
2014	201,837,997	88,430,161	113,407,836	0.8	90,726,269

1.	Total Deferred Return	$108,376,731
2.	Net Market Value	1,366,921,699
3.	Actuarial Value of Assets (Item 2 – Item 1)	$1,258,544,968
4.	Ratio of Actuarial Value to Market Value	92.1%
5.	Non-Valuation Reserves and Other Adjustments	
	a. DROP Reserve	$115,802,000
	b. PRSB Reserve	0
	c. City Surplus Reserve [3]	94,000
	d. Total	115,896,000
6.	Valuation Value of Assets (Item 3 – Item 5d)	$1,142,648,968

[1] *Based on action taken by the Board in 2013, the net deferred loss of $31,168,873 as of June 30, 2012 was combined and will be recognized in four level amounts beginning with the June 30, 2013 valuation.*

[2] *Administrative expenses are treated as benefit payments and are excluded from the calculation of actual versus expected income.*

[3] *The City Surplus Reserve is treated as a liability; it represents the City's prior excess contributions due to the difference between the actual versus the estimated contributions for 2013/2014. This difference is taken into account in developing the contribution rate requirement for 2015/2016. See Step (4) in Table 4 of Appendix B for calculations.*

Deferred return as of June 30, 2014 recognized in each of the next four years:

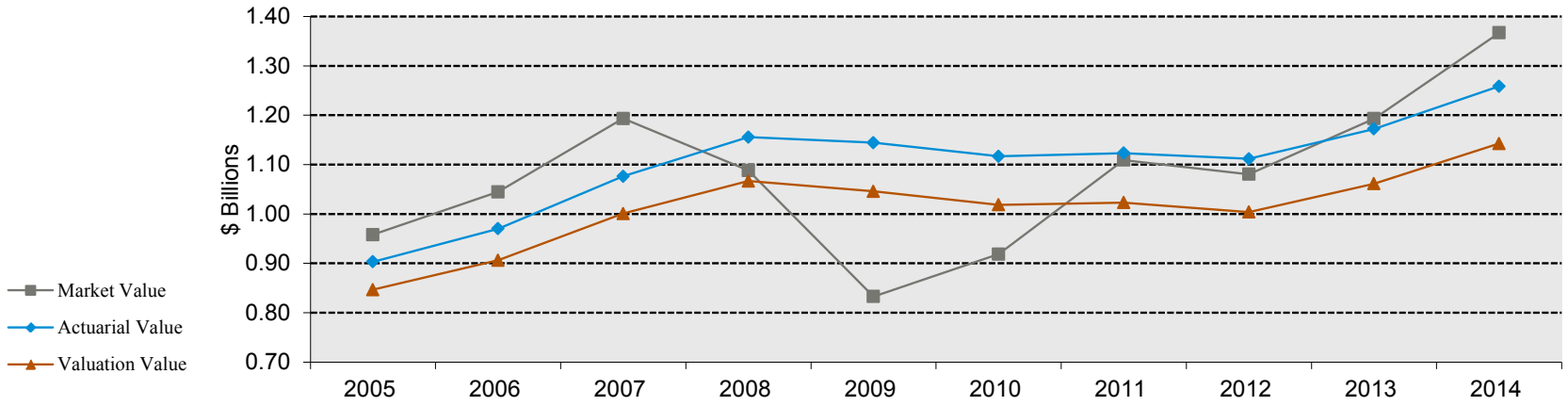
6/30/2015	$25,967,648
6/30/2016	25,967,648
6/30/2017	33,759,867
6/30/2018	22,681,568
	$108,376,731

The market value, actuarial value, and valuation value of assets are representations of the Retirement 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, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves. The valuation value of assets is significant because the Retirement 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 market value, actuarial value and valuation value over the past ten years.

CHART 8

Market Value, Actuarial Value and Valuation Value of Assets as of June 30, 2005-2014



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 experience gain was $72.7 million, including a gain of $19.5 million from investments (after smoothing) and a gain of $53.3 million from all other sources. The net experience variation from individual sources other than investments was 5.3% 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, 2014

1.	Net gain/(loss) from investments [(1)]	$19,469,000
2.	Net gain/(loss) from other experience [(2)]	53,267,000
3.	Net experience gain/(loss): (1) + (2)	$72,736,000

[(1)] Details in Chart 10.

[(2)] See Items (6b) through (6d) in Section 3, Exhibit H.

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 Retirement System's investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets was 7.50% (based on the June 30, 2013 valuation). The actual rate of return on a valuation basis for the 2013/2014 plan year was 9.35%.

Since the actual return for the year was greater than the assumed return, the Retirement System experienced an actuarial gain during the year ended June 30, 2014 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10

Investment Experience for Year Ended June 30, 2014 – Market Value, Actuarial Value and Valuation Value of Assets

	Market Value	Actuarial Value	Valuation Value
1. Actual return	$201,837,997	$114,397,808	$98,429,333
2. Average value of assets	$1,179,068,816	$1,158,132,274	$1,052,809,512
3. Actual rate of return: (1) ÷ (2)	17.12%	9.88%	9.35%
4. Assumed rate of return	7.50%	7.50%	7.50%
5. Expected return: (2) x (4)	$88,430,161	$86,859,921	$78,960,713
6. Actuarial gain/(loss): (1) – (5)	$113,407,836	$27,537,887	$19,468,620

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 a market, actuarial and valuation basis for the last ten years.

CHART 11

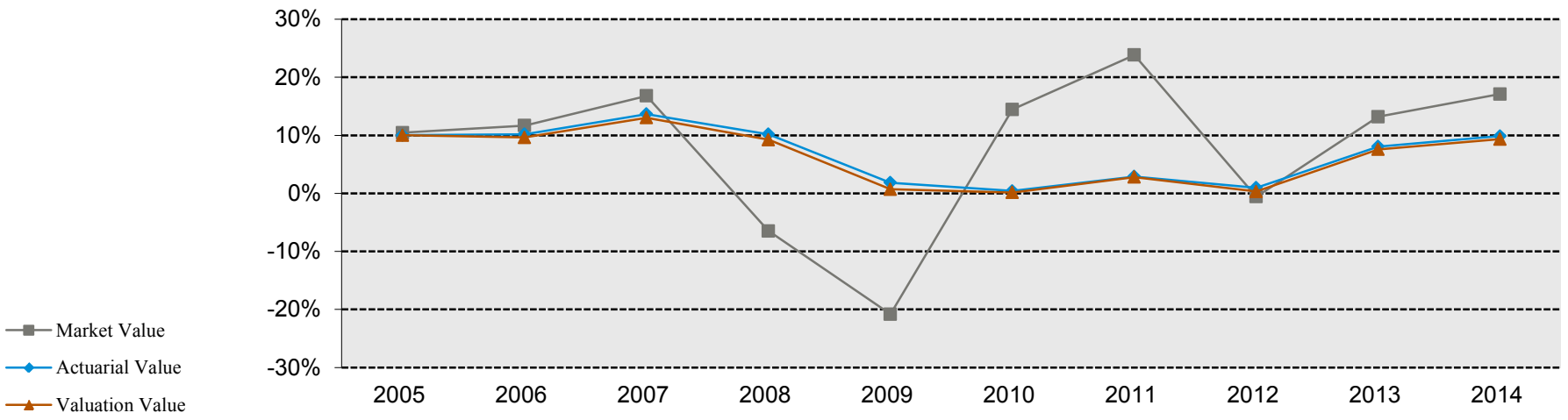
Investment Return – Market Value, Actuarial Value and Valuation Value: 2005 – 2014

	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
Year Ended June 30	Amount	Percent	Amount	Percent	Amount	Percent
2005	$91,761,097	10.45%	N/A	N/A	$73,717,200	10.02%
2006	110,590,200	11.69%	$90,688,128	10.17%	80,618,910	9.64%
2007	173,484,408	16.81%	130,869,517	13.66%	116,690,509	13.03%
2008	(76,360,019)	(6.48%)	108,238,256	10.19%	91,350,305	9.24%
2009	(223,116,857)	(20.81%)	21,006,314	1.84%	7,352,713	0.70%
2010	118,017,947	14.45%	4,642,820	0.41%	1,619,733	0.16%
2011	215,994,016	23.84%	31,935,944	2.89%	28,156,867	2.80%
2012	(6,201,334)	(0.56%)	10,823,427	0.97%	3,177,454	0.31%
2013	140,701,338	13.19%	88,595,923	8.07%	75,341,263	7.57%
2014	201,837,997	17.12%	114,397,808	9.88%	98,429,333	9.35%
Five-Year Annualized Average Return		13.32%		4.37%		3.97%
Ten-Year Annualized Average Return		7.14%		6.35%		6.18%

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.

CHART 12

Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2005 – June 30, 2014



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:

- actual 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,
- DROP experience different than assumed, and
- COLA increase different than assumed.

The net gain from this other experience for the year ended June 30, 2014 amounted to $53.3 million which is 5.3% of the actuarial accrued liability. See Section 3, Exhibit H for a detailed development of the prefunded actuarial accrued liability.

D. EMPLOYER AND MEMBER CONTRIBUTIONS

Employer contributions consist of two components:

Normal Cost	The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is expressed as a level percentage of the member's compensation.
Contribution to the Unfunded Actuarial Accrued Liability (UAAL)	The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a prefunded actuarial accrued liability) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the Retirement System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.75% (i.e., 3.25% inflation plus 0.50% real across-the-board salary increase). Effective with the June 30, 2013 valuation, any new UAAL established on each subsequent valuation as a result of actuarial gains or losses or plan amendments are amortized over separate 15-year declining periods (with the exception of temporary retirement incentives which are amortized over its own declining period of up to 5 years). Any new UAAL established as a result of changes in actuarial assumptions or methods at each valuation is amortized over separate 25-year declining periods. Any actuarial surplus (when the funded ratio is over 110% will be amortized over a non-declining 25-year period. The recommended employer contributions are provided on Chart 13.
Member Contributions	
Tier 1	Provide 1/3 of the funding required to pay a benefit equal to 50% of FAS at age 50 (or when a member has 20 years of service if later but not later than age 60) to a member with 66-2/3% automatic continuance payable to his/her eligible spouse/domestic partner (§3-319). The contribution will be prorated if the member has less than 20 years of service at age 60.
Tier 2	9% of pay (§3-405).

CHART 13
Recommended Employer Contribution Rates (Dollar Amounts in Thousands)

	June 30, 2014 Prepared using Recommended Procedure		June 30, 2014 Prepared using Historical Procedure		June 30, 2013	
Tier 1 Members	**Rate**	**Estimated Annual Amount[(1)]**	**Rate**	**Estimated Annual Amount[(1)]**	**Rate**	**Estimated Annual Amount[(1)]**
Normal Cost	26.88%	$3,499	26.88%	$3,499	27.80%	
Tier 2 Members						
Normal Cost	22.07%	$19,168	22.07%	$19,168	22.09%	
All Categories Combined						
Normal Cost	22.70%	$22,667	22.70%	$22,667	22.91%	$22,880
Surplus Offset	-1.48%	-1,480	-2.48%	-2,478	0.00%	0
Contribution (Excess)/Shortfall from Prior Fiscal Year	-0.09%	-90	-1.69%	-1,684	-0.09%	-90
Adjustment for Phase-In of Assumption Changes	-0.99%	-989	-0.99%	-989	-1.99%	-1,987
Total Contribution	20.14%	$20,108	17.54%	$17,516	20.83%	$20,803

[(1)] *Amounts are in thousands and are based on projected fiscal year 2015 – 2016 annual payroll for active non-DROP and DROP members (also in thousands):*

Tier 1	$13,017
Tier 2	86,852
Total	$99,869

The employer contribution rates as of June 30, 2014 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 Employer Contribution

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

CHART 14

Reconciliation of Recommended Employer Contribution from June 30, 2013 to June 30, 2014 (Dollars in Thousands)

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

		Contribution Rate	Estimated Amount [1]
1.	Recommended Contribution Rate as of June 30, 2013	20.83%	$20,803
	a. Less 2013/2014 plan year contribution offset included in the above rate (payable 2014/2015)	-0.09%	-$90
	b. Less 2014/2015 adjustment for phase-in of employer's contribution rate impact due to changes in actuarial assumptions	-1.99%	-$1,987
	c. Normal Cost Rate as of June 30, 2013	22.91%	$22,880
2.	Effect of actuarial experience during 2013/2014 on Normal Cost Rate		
	a. Effect of changes in membership demographics	-0.21%	-$213
	b. Normal Cost Rate as of June 30, 2014	22.70%	$22,667
3.	Effect of second year of three-year phase in of the employer's contribution rate impact due to changes in actuarial assumptions	-0.99%	-$989
4.	Effect of the difference between the actual and the estimated 2014/2015 plan year contribution after taking into account surplus available as of 6/30/2014	-1.69%	$1,684
5.	Effect of projecting the surplus to be allocated to the City in the 6/30/2015 valuation based on the assumed market value rate of return of 7.50% for the 2014/2015 plan year (which produces a return of 9.47% on an actuarial value basis)	-2.48%	-$2,478
6.	Recommended Contribution Rate as of June 30, 2014 using historical procedure	17.54%	$17,516
7.	Effect of change in procedure used to calculate surplus offset	2.60%	$2,592
8.	Recommended Contribution Rate as of June 30, 2014 using recommended procedure	20.14%	$20,108

[1] *Based on projected fiscal year 2015 – 2016 annual payroll of $99,869 for active non-DROP and DROP members.*

The member contribution rates as of June 30, 2014 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 Member Contribution
The chart below details the changes in the recommended member contribution rate from the prior valuation to the current year's valuation.

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

CHART 15

Reconciliation of Recommended Member Contribution from June 30, 2013 to June 30, 2014 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Amount [1]
Average Contribution Rate as of June 30, 2013	8.95%	$7,676
Effect of changes in membership demographics	-0.01%	$3
Average Contribution Rate as of June 30, 2014	8.94%	$7,673

[1] *Based on projected fiscal year 2015 – 2016 annual payroll for members NOT in the DROP of $85,802.*

CHART 16
Breakdown of Normal Cost Rate

As requested by the Retirement System, we have provided a breakdown of the Normal Cost to fund each type of benefit.

	June 30, 2014	
	Tier 1	**Tier 2**
Service Retirement	19.65%	19.92%
Vested Deferred Retirement and Contribution Refunds	1.77%	1.17%
Death-In-Service	0.51%	0.62%
Disability	5.45%	9.12%
Total Normal Cost	27.38%	30.83%
Less		
Employee Contributions [1]	0.50%	8.76%
Equals		
Net Employer Normal Cost	26.88%	22.07%

[1] *The offset for employee contributions is less than the aggregate employee rate because it expresses the employee contribution dollar amount as a percent of projected fiscal year 2015-2016 annual payroll for all active members (non-DROP and DROP) of $99,869 instead of annual payroll for only active non-DROP members of $85,802.*

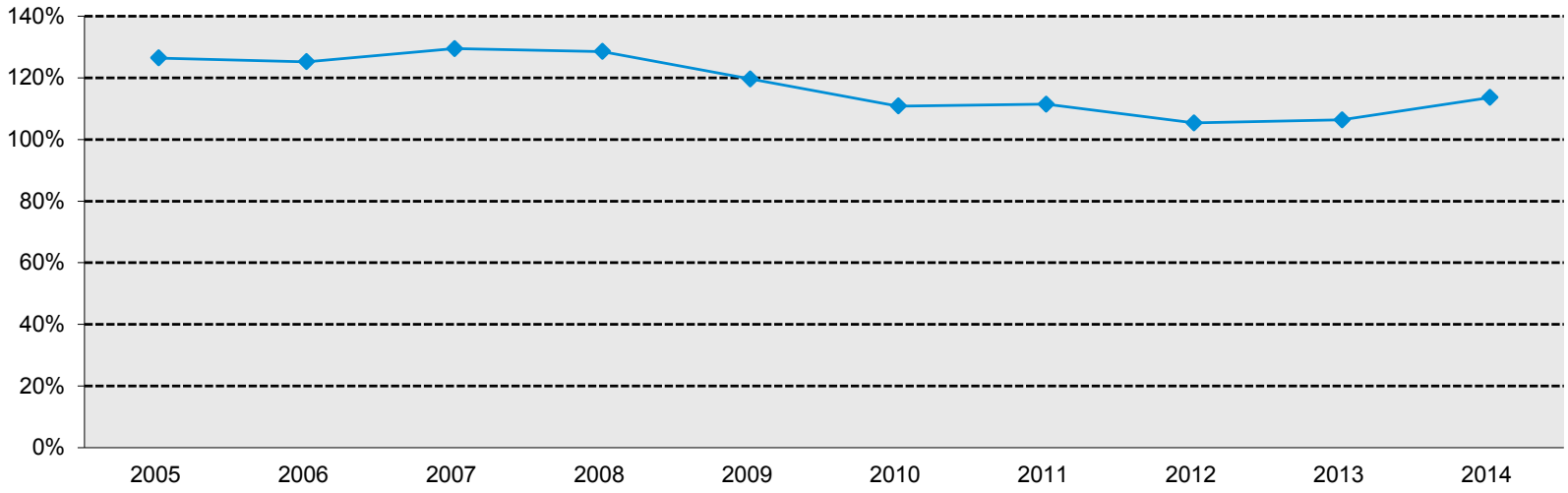
E. FUNDED RATIO

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

The chart below depicts a history of the funded ratio for the plan.

CHART 17

Funded Ratio



F. VOLATILITY RATIOS

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For the Retirement System, the current AVR is about 14.2. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 14.2% of one-year's payroll. Since the Retirement System amortizes actuarial gains and losses over a period of 15 years, there would be a 1.2% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss) if the Retirement System has an unfunded actuarial accrued liability.

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For the Retirement System, the current LVR is about 10.5. This is about 26% lower than the AVR. Therefore, we would expect that contribution volatility will decrease over the long-term.

This chart shows how the asset and liability volatility ratios have varied over time.

CHART 19

Volatility Ratios for Years Ended June 30, 2009 – 2014

Year Ended June 30	Asset Volatility Ratio	Liability Volatility Ratio
2009	8.1	8.5
2010	8.9	9.0
2011	11.2	9.3
2012	10.7	9.5
2013	11.8	9.9
2014	14.2	10.5

EXHIBIT A

Table of Plan Coverage - i. Tier 1

Category	Year Ended June 30 2014	2013	Change From Prior Year
Active members in valuation			
Non-DROP			
Number	11	21	-47.6%
Average age	48.7	48.6	N/A
Average service	25.3	24.3	N/A
Projected total compensation	$1,222,947	$2,483,563	-50.8%
Projected average compensation	$111,177	$118,265	-6.0%[2]
Member account balances	$2,711,902	$4,812,325	-43.6%
Total active vested members	11	21	-47.6%
DROP			
Number	102	106	-3.8%
Average age	55.1	55.0	N/A
Average service	25.2	25.1	N/A
Projected total compensation	$11,322,774	$11,961,475	-5.3%
Projected average compensation	$111,008	$112,844	-1.6%[2]
Vested terminated members			
Number	0	1	-100.0%
Average age	N/A	49.8	N/A
Retired members			
Number in pay status	330	337	-2.1%
Average age	70.5	70.7	N/A
Average monthly benefit [1]	$4,352	$4,357	-0.1%
Disabled members			
Number in pay status	274	275	-0.4%
Average age	66.5	65.6	N/A
Average monthly benefit [1]	$4,209	$4,197	0.3%
Beneficiaries			
Number in pay status	257	248	3.6%
Average age	70.5	70.3	N/A
Average monthly benefit [1]	$2,204	$2,205	0.0%

[1] *Excludes supplemental benefits (if any) paid from PRSB and benefits derived from DROP account balances.*

[2] *There was a delay in the recognition of lower than expected salary increases from 2011/2012 to 2012/2013 because salaries reported in the June 30, 2013 valuation had 27 pay periods.*

EXHIBIT A

Table of Plan Coverage - ii. Tier 2

Category	Year Ended June 30 2014	2013	Change From Prior Year
Active members in valuation			
Non-DROP			
Number	861	872	-1.3%
Average age	40.7	40.1	N/A
Average service	12.3	11.6	N/A
Projected total compensation	$81,478,229	$84,680,664	-3.8%
Projected average compensation	$94,632	$97,111	-2.6%[2]
Member account balances	$121,838,425	$110,464,562	10.3%
Total active vested members	830	835	-0.6%
DROP			
Number	24	16	50.0%
Average age	57.7	56.6	N/A
Average service	17.5	17.8	N/A
Projected total compensation	$2,235,042	$1,579,467	41.5%
Projected average compensation	$93,127	$98,717	-5.7%[2]
Vested terminated members			
Number	69	59	16.9%
Average age	41.4	40.6	N/A
Retired members			
Number in pay status	16	18	-11.1%
Average age	58.7	58.2	N/A
Average monthly benefit [1]	$1,719	$1,868	-8.0%
Disabled members			
Number in pay status	94	84	11.9%
Average age	46.3	45.6	N/A
Average monthly benefit [1]	$3,480	$3,434	1.3%
Beneficiaries			
Number in pay status	7	6	16.7%
Average age	50.2	49.9	N/A
Average monthly benefit [1]	$1,016	$919	10.6%

[1] *Excludes supplemental benefits (if any) paid from PRSB and benefits derived from DROP account balances.*

[2] *There was a delay in the recognition of lower than expected salary increases from 2011/2012 to 2012/2013 because salaries reported in the June 30, 2013 valuation had 27 pay periods.*

EXHIBIT B

Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2014 – Non-DROP Active Members Only

i. Tier 1

		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	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
35 - 39	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
45 - 49	10	--	--	--	--	7	3	--	--	--
	$111,018	--	--	--	--	$96,545	$144,790	--	--	--
50 - 54	1	--	--	--	--	--	1	--	--	--
	112,763	--	--	--	--	--	112,763	--	--	--
55 - 59	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	11	--	--	--	--	7	4	--	--	--
	$111,177	--	--	--	--	$96,545	$136,783	--	--	--

Note: Excludes 102 active members in DROP with projected average compensation of $111,008.

EXHIBIT B

Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2014 – Non-DROP Active Members Only

ii. Tier 2

		Years of Service							
Age	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & over
Under 25	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	52	21	31	- -	- -	- -	- -	- -	- -
	$77,221	$65,292	$85,302	- -	- -	- -	- -	- -	- -
30 - 34	156	7	119	30	- -	- -	- -	- -	- -
	90,130	66,197	89,856	$96,801	- -	- -	- -	- -	- -
35 - 39	178	3	74	74	27	- -	- -	- -	- -
	92,589	57,500	89,443	94,225	$100,628	- -	- -	- -	- -
40 - 44	228	- -	46	72	99	11	- -	- -	- -
	96,853	- -	91,159	95,801	98,849	$109,590	- -	- -	- -
45 - 49	178	- -	20	33	95	29	1	- -	- -
	100,174	- -	93,412	94,624	100,651	109,829	$93,328	- -	- -
50 - 54	59	- -	4	13	27	15	- -	- -	- -
	101,937	- -	100,315	94,828	100,978	110,259	- -	- -	- -
55 - 59	7	- -	2	2	3	- -	- -	- -	- -
	100,170	- -	116,712	94,506	92,917	- -	- -	- -	- -
60 - 64	3	- -	1	1	1	- -	- -	- -	- -
	97,495	- -	109,143	83,660	99,683	- -	- -	- -	- -
65 - 69	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	861	31	297	225	252	55	1	- -	- -
	$94,632	$64,742	$90,106	$95,122	$99,880	$109,899	$93,328	- -	- -

Note: Excludes 24 active members in DROP with projected average compensation of $93,127.

EXHIBIT C

Reconciliation of Member Data – June 30, 2013 to June 30, 2014

	Non-DROP Active Members	DROP Members	Vested Terminated Members	Pensioners	Disableds	Beneficiaries	Total
Number as of June 30, 2013	893 [1]	122 [1]	60	355	359	254	2,043
New members	19	0	0	0	0	0	19
Terminations – with vested rights	-13	0	13	0	0	0	0
Contributions Refunds	-2	0	-3	0	0	0	-5
DROP Entry	-16	16	0	0	0	0	0
Retirements	-1	-14	-1	16	0	0	0
New disabilities	-9	0	0	-5	14	0	0
Return to work	1	0	-1	0	0	0	0
Died with or without beneficiary	0	0	0	-18	-5	10 [3]	-13
Data adjustments	0	2	1	-2	0	0	1
Number as of June 30, 2014	872 [2]	126 [2]	69	346	368	264	2,045

[1] There was a total of 1,015 actives (including non-DROP and DROP members) at the beginning of the plan year.

[2] There was a total of 998 actives (including non-DROP and DROP members) at the end of the plan year.

[3] This is the net increase in the number of beneficiaries after subtracting the number of beneficiaries who died during the year.

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2014		Year Ended June 30, 2013	
Contribution income:				
Employer contributions	$18,574,840		$18,724,714	
Employee contributions	7,294,314		7,398,730	
Less administrative expenses	-1,119,495		-1,182,391	
Net contribution income		$24,749,659		$24,941,053
Investment income:				
Interest, dividends and other income	$30,086,024		$28,699,602	
Adjustment toward market value	90,395,966		65,511,943	
Less investment fees	-6,084,182		-5,615,622	
Net investment income		114,397,808		88,595,923
Total income available for benefits		$139,147,467		$113,536,976
Less benefit payments:				
Benefit payments	-$52,513,147		-$51,826,738	
Post retirement supplemental benefits	-60,750		-184,751	
Refunds of contributions	-145,990		-970,380	
Net benefits payments		-$52,719,887		-$52,981,869
Change in reserve for future benefits		$86,427,580		$60,555,107

Note: Results may not total properly due to rounding.

EXHIBIT E

Summary Statement of Assets

	Year Ended June 30, 2014		Year Ended June 30, 2013	
Cash equivalents		$855,278		$1,183,828
Accounts receivable:				
Receivables for investments sold	$7,975,793		$11,470,395	
Interest and dividends	4,198,568		4,738,321	
Others receivables	20,193,254		9,159,389	
Total accounts receivable		32,367,615		25,368,105
Investments:				
Domestic and international equity	$802,575,089		$657,991,821	
Government and corporate bonds	336,299,680		342,965,137	
Real estate	153,373,164		133,661,152	
Emerging market equity	24,331,069		41,933,390	
Collateral held for securities lent	136,469,361		174,087,118	
Other investments	52,760,536		28,572,014	
Total investments at market value		1,505,808,899		1,379,210,632
Total assets		$1,539,031,792		$1,405,762,565
Less accounts payable:				
Collateral held for securities lent	-$136,469,361		-$174,087,118	
Payable for investments and foreign currency purchased	-34,167,608		-37,378,877	
Other liabilities	-1,473,124		-1,242,640	
Total accounts payable		-$172,110,093		-$212,708,635
Net assets at market value		$1,366,921,699		$1,193,053,930
Net assets at actuarial value		$1,258,544,968		$1,172,117,388
Net assets at valuation value		$1,142,648,968		$1,061,399,388

Note: Results may not total properly due to rounding.

EXHIBIT F

Actuarial Balance Sheet

An overview of the System's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that will be made by the System for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the "liability" of the Plan.

Second, we determine how this liability will be met. These actuarial "assets" include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments.

Actuarial Balance Sheet (Dollar Amounts in Thousands)

Assets	Total
1. Total valuation assets	$1,142,649
2. Present value of future member normal cost	62,597
3. Present value of future employer normal cost	187,633
4. Unfunded/(prefunded) actuarial accrued liability	-136,621
5. Total current and future assets	$1,256,258
Liabilities	
6. Present value of benefits already granted, excludes current active DROP	$570,898
7. Present value of benefits for current active DROP	137,516
8. Present value of benefits to be granted	547,844
9. Total liabilities	$1,256,258

EXHIBIT G

Summary of Reported Asset Information as of June 30, 2014

	Reserves $(000)
Employer Advance/Retired Reserves	$1,120,962
Active Member Reserves	130,064
DROP Reserve [1]	115,802
Reserve for PRSB [1]	-
Reserve for City Surplus [1],[2]	94
Net Assets Held in Trust for Benefits	$1,366,922

Note: Results may not add due to rounding

[1] *Non-valuation reserve*

[2] *The City Surplus Reserve is treated as a liability; it represents the City's prior excess contributions due to the difference between the actual versus the estimated contributions for 2013/2014. This difference is taken into account in developing the contribution rate requirement for 2015/2016.*

EXHIBIT H

Development of Unfunded / (Prefunded) Actuarial Accrued Liability as of June 30, 2014

		(Dollar amounts in Thousands)
1	Unfunded/(prefunded) actuarial accrued liability at beginning of year	-$63,563
2	Gross Normal Cost at middle of year	30,154
3	Actual employer and member contributions	-25,869
4	Interest (whole year on (1) plus half year on (2) + (3))	-4,607
5	Expected unfunded/(prefunded) actuarial accrued liability at end of year	-$63,885
6	Actuarial (gain)/loss due to all changes:	
	Experience (gain)/loss	
	a. (Gain)/loss from investment	-$19,469
	b. Delayed recognition of lower than expected salary increases from 2011/2012 to 2012/2013 because salaries reported in the 6/30/2013 valuation had 27 pay periods	-11,415
	c. Lower than expected salary increases from 2012/2013 to 2013/2014	-8,482
	d. Lower than expected COLA benefit increases for continuing retirees and DROP	-23,536
	d. Other experience (gain)/loss	-9,834
	e. Subtotal	-72,736
7	Actual unfunded/(prefunded) actuarial accrued liability at end of year (5) + (6e)	-$136,621

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 indexed for inflation. That limit is $210,000 for 2014 and 2015. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must generally 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.

Contributions rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

EXHIBIT J
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 net, in this case, of investment and administrative expenses.

(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; and

(d) Turnover 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 level cost allocated to the current year of service.

Actuarial Accrued Liability For Actives: The equivalent of the accumulated normal costs allocated to the years before the valuation date.

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 (Prefunded) Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds (or is exceeded by) the assets of the Plan. There are many approaches to paying off the unfunded or prefunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded (Prefunded) Actuarial Accrued Liability: Payments made over a period of years equal in value to the Plan's unfunded or prefunded 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 actual market rate of return 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 members as of the valuation date (including 264 beneficiaries in pay status)		978
2.	Members inactive during year ended June 30, 2014 with vested rights		69
3.	Members active during the year ended June 30, 2014		998
	DROP members	126	
	Fully vested non-DROP members	841	
	Not vested	31	

The actuarial factors as of the valuation date are as follows (amounts in 000s):

	Assets		
1.	Valuation value of assets ($1,366,922 at market value [(1)] as reported by the Retirement System and $1,258,545 at actuarial value [(1)])		$1,142,649
2.	Present value of future normal costs		
	Employee	$62,597	
	Employer	187,633	
	Total		$250,230
3.	Prefunded actuarial accrued liability		-136,621
4.	Present value of current and future assets		$1,256,258
	Liabilities		
5.	Present value of future benefits		
	Retired members and beneficiaries	$570,898	
	Inactive members with vested rights	9,204	
	DROP members	137,516	
	Active non-DROP members	538,640	
	Total		$1,256,258

[(1)] *Includes non-valuation reserves.*

EXHIBIT I (continued)
Summary of Actuarial Valuation Results

The determination of the recommended contribution is as follows (amounts in 000s):	Dollar Amount	% of Payroll [1]
1. Total normal cost	$30,340	30.38%
2. Expected employee contributions	-7,673	-7.68%
3. Employer normal cost: (1) + (2)	$22,667	22.70%
4. Surplus offset	-2,478	-2.48%
5. Adjustment for phase-in of assumption changes	-989	-0.99%
6. Contribution (excess)/shortfall from prior year	-1,684	-1.69%
7. Total recommended employer contributions: (3) + (4) + (5)	$17,516	17.54%
8. Projected payroll[1]	$99,869	

[1] *Based on projected fiscal year 2015 – 2016 annual payroll for active non-DROP and DROP members shown in (8).*

EXHIBIT II

Schedule of Employer Contributions

Plan Year Ended June 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2009	$8,938,488	$8,938,488	100.0%
2010	12,094,355	12,094,355	100.0%
2011	19,397,178	19,397,178	100.0%
2012	22,875,005	22,875,005	100.0%
2013	18,724,714	18,724,714	100.0%
2014	18,574,840	18,574,840	100.0%

EXHIBIT III

Schedule of Funding Progress (Dollar Amounts in Thousands)

Actuarial Valuation Date	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Prefunded AAL (a) - (b)	Funded Ratio (%) (a) / (b)	Covered Payroll (c)	Prefunded AAL/ (UAAL) as a Percentage of Covered Payroll (%) [(a) - (b)] / (c)
6/30/2009	$1,045,774	$874,355	$171,419	119.6	$102,355	167.5
6/30/2010	1,018,605	919,286	99,319	110.8	102,686	96.7
6/30/2011	1,022,996	917,941	105,055	111.4	99,000	106.1
6/30/2012	1,003,929	952,866	51,063	105.4	100,596	50.8
6/30/2013	1,061,399	997,836	63,563	106.4	100,705	63.1
6/30/2014	1,142,649	1,006,028	136,621	113.6	96,259	141.9

EXHIBIT IV
Supplementary Information Required by GASB

Valuation date	June 30, 2014
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll for total Unfunded Actuarial Accrued Liability or Prefunded Actuarial Accrued Liability
Remaining amortization period	Effective with the June 30, 2013 valuation, any new UAAL established on each subsequent valuation as a result of actuarial gains or losses or plan amendments are amortized over separate 15-year declining periods (with the exception of temporary retirement incentives which are amortized over its own declining period of up to 5 years). Any new UAAL established as a result of changes in actuarial assumptions or methods at each valuation is amortized over separate 25-year declining periods. Any actuarial surplus (when the funded ratio is over 110%) will be amortized over a non-declining 25-year period.
Asset valuation method	The Actuarial Value of Assets is determined by phasing in any difference between actual and expected return on market value of assets over 5 years. Deferred gains and losses as of June 30, 2012 have been combined and will be recognized in four equal annual amounts over a period of four years from that date. The Valuation Value of Assets is the Actuarial Value of Assets reduced by the value of the non-valuation reserves (i.e., DROP Reserve, PRSB Reserve and City Surplus).
Actuarial assumptions:	
Investment rate of return	7.50%
Inflation rate	3.25%
Real across-the-board salary increase	0.50%
Projected salary increases [(1)]	3.75% to 12.25%
Cost of living adjustments	3.75% of Tier 1 retirement income and 3.00% of Tier 2 retirement income
Plan membership:	
Retired members and beneficiaries receiving benefits	978
Terminated members entitled to, but not yet receiving benefits	69
DROP members	126
Active non-DROP members	872
Total	2,045

[(1)] *Includes inflation at 3.25% plus real across-the-board salary increase of 0.50% plus merit and promotion increases. See Exhibit V for these increases.*

EXHIBIT V
Actuarial Assumptions and Actuarial Cost Method

Post – Retirement Mortality Rates:

Healthy: RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with scale AA to 2021 set back three years for males and set forward one year for females.

Disabled: RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with scale AA to 2021 set forward two years.

The tables shown above were determined to contain sufficient provision appropriate to reasonably reflect future mortality, based on a review of mortality experience as of the measurement date.

Employee Contribution Rates and Optional Benefits:

For healthy members: RP-2000 Combined Healthy Mortality Table projected with scale AA to 2021 set back three years for males and set forward one year for females weighted 90% male and 10% female.

For beneficiaries: RP-2000 Combined Healthy Mortality Table projected with scale AA to 2021 set back three years for males and set forward one year for females weighted 10% male and 90% female.

For disabled members: RP-2000 Combined Healthy Mortality Table projected with scale AA to 2021 set forward two years weighted 90% male and 10% female.

Termination Rates Before Retirement:

Rate (%)
Mortality

	Tier 1 & Tier 2	
Age	**Male**	**Female**
25	0.03	0.02
30	0.03	0.03
35	0.05	0.04
40	0.08	0.06
45	0.10	0.09
50	0.13	0.13
55	0.17	0.27
60	0.33	0.52
65	0.64	0.99

All pre-retirement deaths are assumed to be duty.

Rate (%)
Disability

	Tier 1		Tier 2	
Age	**Duty**	**Non-Duty**	**Duty**	**Non-Duty**
20	0.02	0.00	0.14	0.00
25	0.14	0.01	0.29	0.01
30	0.26	0.01	0.50	0.01
35	0.39	0.03	0.72	0.03
40	0.60	0.12	0.98	0.12
45	0.88	0.25	1.22	0.25
50	2.80	0.20	1.48	0.20
55	8.20	0.00	1.78	0.00
60	0.00	0.00	0.00	0.00

Termination Rates Before Retirement (Continued):

Rate (%)
Total Termination (Less than 5 years of service)

Service	Tier 1	Tier 2
0 – 1	4.47	9.00
1 – 2	4.47	3.00
2 – 3	4.47	2.00
3 – 4	4.47	1.50
4 – 5	4.47	1.00

100% of members are assumed to elect a withdrawal of contributions. No termination is assumed after a member is assumed to retire.

Rate (%)
Total Termination (5 or more years of service)

	Tier 1		
Age	5 - 10 Years	10+ Years	Tier 2
20	2.87	3.57	3.10
25	2.87	3.57	2.85
30	1.88	2.63	2.12
35	0.87	1.44	1.46
40	0.44	0.92	1.00
45	0.19	0.63	0.56
50	0.00	0.00	0.00

100% of Tier 1 members with 5 - 10 years of service, 0% of Tier 1 members with 10+ years of service and 50% of Tier 2 members with 5+ years of service are assumed to elect a withdrawal of contributions. The remaining members are assumed to elect a deferred vested benefit. No termination is assumed after a member is assumed to retire.

Retirement Rates:

	Rate (%)	
Age	**Tier 1**	**Tier 2**
50	12.72	5.31
51	7.63	4.12
52	7.63	4.64
53	5.09	5.09
54	5.09	5.09
55	10.60	19.46
56	13.77	11.72
57	14.03	7.82
58	16.66	9.69
59	29.67	9.17
60	100.00	75.00
61	100.00	75.00
62	100.00	75.00
63	100.00	75.00
64	100.00	75.00
65	100.00	100.00

DROP Assumptions:	**Tier 1**	**Tier 2**
First Year Eligible	100%	40%
Second Year Eligible	0%	20%
Third Year Eligible	0%	10%
Thereafter	0%	0%

Members are assumed to remain in DROP for 7 years.

Retirement Age and Benefit for Deferred Vested Members	For current deferred vested members, retirement assumptions are as follows: Tier 1: Age 50 Tier 2: Age 52 It is assumed that 60% of future deferred vested members will continue to work for a reciprocal employer. For those that continue to work for a reciprocal employer, a 4.15% compensation increase per annum is assumed.
Future Benefit Accruals:	1.0 year of service per year.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Inclusion of Deferred Vested Members:	All deferred vested members are included in the valuation.
Percent Married:	85%
Age of Spouse:	Wives are 3 years younger than their husbands.
Net Investment Return:	7.50%, net of administration and investment expenses.
Employee Contribution Crediting Rate:	7.50%, assumed in the valuation.
Consumer Price Index:	Increase of 3.75% per year, retiree COLA increases due to CPI are limited to maximum at 3.75% per year for Tier 1 and 3.00% for Tier 2.

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.25% per year plus 0.50% real across-the-board salary increase; plus the following Merit and Promotion increases based on completed years of service and age.

5 or less years of service:

Service	Annual Increase
0-1	8.50%
1-2	7.50%
2-3	5.00%
3-4	4.50%
4-5	3.75%

More than 5 years of service:

Age	Annual Increase
25-29	1.70%
30-34	1.30%
35-39	1.10%
40-44	0.70%
45-49	0.60%
50-54	0.40%
55+	0.00%

Ongoing Pay Elements

To reflect the cash-out of holiday leave to increase salary on an ongoing basis for Fire employees, we have increased the salary for all active Tier 1 employees and Tier 2 management employees by 3.6% and we have increased the salary for all active Tier 2 non-management employees by 1.8%.

Since the salary data provided by the System already reflects the ongoing cash-out of holiday leave for Police employees, no assumption for Police employees is necessary.

	Cash-out Elements There is an additional 1.00% increase for Fire and Police management employees and an additional 0.25% increase for Fire and Police non-management employees to reflect the average leave time cash-outs for management employees to increase final average salary at retirement. There is an additional 7.00% increase for all Fire and Police employees to reflect the conversion of sick leave to increase final average salary at retirement. To reflect the cash-out of additional holiday leave balance to increase final average salary at retirement for non-management Tier 2 Police employees, there is an additional increase equal to the actual hours reported in an employee's holiday balance if that balance is greater than 96 hours and for those with a balance less than 96 hours the additional increase is equal to 1.5%.
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the 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, as if the current benefit formulas have always been in effect (i.e., "replacement life").
Actuarial Value of Assets:	The Actuarial Value of Assets is determined by phasing in any difference between actual market return and expected return on market value over 5 years. Deferred gains and losses as of June 30, 2012 have been combined and will be recognized in four equal annual amounts over a period of four years from that date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of the non-valuation reserves.
Change in Actuarial Assumptions or Methods:	There have been no changes in actuarial assumptions or methods since the previous actuarial valuation.

EXHIBIT VI
Summary of Plan Provisions

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

Membership Eligibility:	
	All sworn Fire, Police, and Airport Public Safety personnel are eligible.
Tier 1	Safety members hired before August 27, 1990.
Tier 2	Safety members hired on or after August 27, 1990.
Final Compensation (FAS) for Benefit Determination:	
Tier 1	Final highest consecutive thirty-six months of compensation earnable calculated using the rate of pay actually earned by the member in effect at the time of retirement. Some members are also entitled to final compensation determined based on a rank average (§3-301 and §3-302).
Tier 2	Highest consecutive thirty-six months of compensation earnable during any thirty-six months of service before the date of retirement (§3-401).
Service:	Years of service (Yrs).
Service Retirement Eligibility:	
Tier 1	Age 50 with 10 years of service, or age 65 regardless of service (§3-332).
Tier 2	Age 50 with 5 years of service, or age 65 regardless of service (§3-410).

Benefit Formula:

Tier 1 (§3-333)

If a member has at least 20 years of service at retirement from active status:

55% * FAS +
Yrs of service in excess of 20 completed after age 50 * 2.00% * FAS

If a member has less than 20 years of service at retirement from active status:

55% * FAS * Yrs of service / 20

If a member retires from deferred status:

55% * FAS * Yrs of service / (Greater of 20 Yrs or Yrs of service member would have completed if the member had remained in City service until age 50)

Tier 2 (§3-411)

Retirement Age	Benefit Formula
50	2.00% x FAS x Yrs
51	2.14% x FAS x Yrs
52	2.28% x FAS x Yrs
53	2.42% x FAS x Yrs
54	2.56% x FAS x Yrs
55+	2.70% x FAS x Yrs

Maximum Benefit
(§3-333 and §3-411)**:** 75% of FAS

Deferred Retirement Option Program (DROP):	
Eligibility	Same as Service Retirement.
Benefits Under DROP	DROP benefits (calculated using age, service and salary at the commencement date of participation in DROP) will be credited to a DROP account with interest at rates determined by the Board. Members will no longer be required to make member contributions. Members may participate in DROP for up to ten years (§3-353 and §3-424).
Ordinary Disability:	
Tier 1	
Eligibility	Ten years of service (§3-335).
Benefit Formula	Greater of 1.65% x FAS x Yrs, 36.67% of FAS or Service Retirement benefit (§3-336).
Tier 2	
Eligibility	Ten years of service (§3-412).
Benefit Formula	Greater of 1.5% x FAS x Yrs, 33.00% of FAS or Service Retirement benefit (§3-413).
Duty Disability:	
Tier 1	
Eligibility	No age or service requirements (§3-335).
Benefit Formula	55% of FAS or Service Retirement benefit, if greater (§3-336).
Tier 2	
Eligibility	No age or service requirements (§3-412)
Benefit Formula	50% of FAS or Service Retirement benefit, if greater (§3-413).

Pre-Retirement Death:

All Members

Eligibility	None.
Basic Lump Sum Benefit	Refund of employee contributions with interest, plus one month's compensation for each year of service, to a maximum of six month's compensation (§3-330 and §3-408 for Tier 1 and Tier 2, respectively).
Death in Line of Duty	55% (50% for Tier 2) of FAS or Service Retirement benefit, if greater and, payable to eligible spouse/domestic partner or minor children (§3-330 and 3-408 for Tier 1 and Tier 2, respectively).
	OR

Vested Members

Eligibility	Ten (five for Tier 2) years of service.
Basic Benefit	66-2/3% of member's unmodified allowance continued to eligible spouse/domestic partner (§3-338 and §3-415 for Tier 1 and Tier 2, respectively).

Death After Retirement:	
All Members	
Service or Disability Retirement	66-2/3% of member's unmodified allowance continued to eligible spouse/domestic partner (§3-338 and §3-415 for Tier 1 and Tier 2, respectively).
Withdrawal Benefits:	
Less than Five Years of Service (Ten Years for Tier 1)	Refund of accumulated employee contributions with interest.
Five or More Years of Service (Ten Years for Tier 1)	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§3-344 and §3-420 for Tier 1 and Tier 2, respectively).
Post-retirement Cost-of-Living Benefits:	
Tier 1	Future changes based on Consumer Price Index to a maximum of 5% per year. Some members are entitled to a cost-of-living benefit based on a rank average (§3-301).
Tier 2	Future changes based on Consumer Price Index to a maximum of 3% per year (§3-411).

Member Contributions:	Please refer to Appendix A for specific rates.
Tier 1	Provide 1/3 of the funding required to pay a benefit equal to 50% of FAS at age 50 (or when a member has 20 years of service if later but not later than age 60) to a member with 66-2/3% automatic continuance payable to his/her eligible spouse/domestic partner (§3-319). The contribution will be prorated if the member has less than 20 years of service at age 60.
Tier 2	9% of pay (§3-405)
Tier 1	Refund of contribution paid for 66-2/3% automatic continuance. Provide a refund of contributions at service or disability retirement for those members without an eligible spouse/domestic partner (§3-319).
City Contributions:	Effective with the June 30, 2013 valuation, any new UAAL established on each subsequent valuation as a result of actuarial gains or losses or plan amendments are amortized over separate 15-year declining periods (with the exception of temporary retirement incentives which are amortized over its own declining period of up to 5 years). Any new UAAL established as a result of changes in actuarial assumptions or methods at each valuation is amortized over separate 25-year declining periods. When there is any "actuarial surplus" (the funded ratio is over 110%), the portion of surplus in excess of 110% will be amortized over a non-declining 25-year period.
Post Retirement Supplemental Benefits (PRSB):	PSRB may be paid to active and retired DROP participants and eligible retirees and beneficiaries (§3-354). This benefit has been excluded from this valuation.

NOTE: *The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the Retirement System should find the plan summary not in accordance with the actual provisions, the Retirement System should alert the actuary so they can both be sure the proper provisions are valued.*

Appendix A
Member Contribution Rates

Comparison of member rates calculated in the June 30, 2014 and June 30, 2013 valuations:

	June 30, 2014		June 30, 2013	
	Rate	[1] Estimated Annual Amount	Rate	[1] Estimated Annual Amount
Tier 1 Members	5.15%	$65	5.35%	$68
Tier 2 Members	9.00%	$7,608	9.00%	$7,608
All Member Categories Combined	8.94%	$7,673	8.95%	$7,676

[1] *Amounts are in thousands and are based on projected fiscal year 2015 – 2016 annual payroll for active members NOT in the DROP (also in thousands):*

Tier 1	$1,269
Tier 2	84,533
Total	$85,802

Appendix A
Member Contribution Rates (Continued)

Tier 1 Members' Contribution Rates based on the June 30, 2014 Actuarial Valuation as a percentage of payroll

Entry Age	Exact Age		¼ Age		½ Age		¾ Age	
	Rate	Dependent Portion	Rate	Dependent Portion	Rate	Dependent Portion	Rate	Dependent Portion
20	4.52%	0.03494	4.57%	0.03494	4.62%	0.03494	4.68%	0.03494
21	4.73%	0.03494	4.79%	0.03494	4.85%	0.03494	4.90%	0.03494
22	4.96%	0.03494	5.02%	0.03494	5.09%	0.03494	5.15%	0.03494
23	5.21%	0.03494	5.28%	0.03494	5.35%	0.03494	5.41%	0.03494
24	5.48%	0.03494	5.56%	0.03494	5.63%	0.03494	5.70%	0.03494
25	5.78%	0.03494	5.86%	0.03494	5.94%	0.03494	6.02%	0.03494
26	6.10%	0.03494	6.19%	0.03494	6.28%	0.03494	6.37%	0.03494
27	6.46%	0.03494	6.56%	0.03494	6.65%	0.03494	6.75%	0.03494
28	6.85%	0.03494	6.96%	0.03494	7.06%	0.03494	7.17%	0.03494
29	7.28%	0.03494	7.40%	0.03494	7.52%	0.03494	7.64%	0.03494
30	7.75%	0.03494	7.74%	0.03546	7.72%	0.03597	7.71%	0.03648
31	7.69%	0.03700	7.67%	0.03755	7.66%	0.03810	7.64%	0.03865
32	7.62%	0.03920	7.60%	0.03979	7.59%	0.04038	7.57%	0.04097
33	7.55%	0.04156	7.53%	0.04219	7.51%	0.04283	7.49%	0.04346
34	7.47%	0.04409	7.45%	0.04476	7.43%	0.04542	7.41%	0.04609
35	7.39%	0.04676	7.37%	0.04747	7.36%	0.04818	7.34%	0.04889
36	7.32%	0.04960	7.30%	0.05036	7.28%	0.05111	7.26%	0.05187
37	7.24%	0.05262	7.21%	0.05343	7.19%	0.05423	7.17%	0.05504
38	7.14%	0.05584	7.12%	0.05669	7.09%	0.05753	7.07%	0.05837
39	7.04%	0.05921	7.02%	0.06007	6.99%	0.06094	6.97%	0.06181

Appendix A
Member Contribution Rates (Continued)

Entry Age	Exact Age		¼ Age		½ Age		¾ Age	
	Rate	Dependent Portion	Rate	Dependent Portion	Rate	Dependent Portion	Rate	Dependent Portion
40	6.94%	0.06267	6.97%	0.06267	7.00%	0.06267	7.03%	0.06267
41	7.07%	0.06267	7.10%	0.06267	7.13%	0.06267	7.16%	0.06267
42	7.20%	0.06267	7.23%	0.06267	7.26%	0.06267	7.30%	0.06267
43	7.33%	0.06267	7.36%	0.06267	7.40%	0.06267	7.43%	0.06267
44	7.47%	0.06267	7.50%	0.06267	7.54%	0.06267	7.58%	0.06267
45	7.61%	0.06267	7.65%	0.06267	7.69%	0.06267	7.73%	0.06267
46	7.77%	0.06267	7.81%	0.06267	7.85%	0.06267	7.89%	0.06267
47	7.93%	0.06267	7.97%	0.06267	8.01%	0.06267	8.05%	0.06267
48	8.09%	0.06267	8.14%	0.06267	8.18%	0.06267	8.23%	0.06267
49	8.27%	0.06267	8.32%	0.06267	8.36%	0.06267	8.41%	0.06267
50	8.46%	0.06267	8.51%	0.06267	8.57%	0.06267	8.63%	0.06267
51	8.68%	0.06267	8.74%	0.06267	8.80%	0.06267	8.86%	0.06267
52	8.93%	0.06267	8.97%	0.06267	9.01%	0.06267	9.05%	0.06267
53	9.10%	0.06267	9.12%	0.06267	9.14%	0.06267	9.16%	0.06267
54	9.18%	0.06267	9.18%	0.06267	9.18%	0.06267	9.18%	0.06267
55	9.18%	0.06267	9.16%	0.06267	9.15%	0.06267	9.13%	0.06267
56	9.11%	0.06267	9.07%	0.06267	9.04%	0.06267	9.00%	0.06267
57	8.96%	0.06267	9.04%	0.06267	9.12%	0.06267	9.19%	0.06267
58	9.27%	0.06267	9.35%	0.06267	9.44%	0.06267	9.52%	0.06267
59	9.60%	0.06267	9.60%	0.06267	9.60%	0.06267	9.60%	0.06267

Interest:	7.50% per annum
Mortality:	RP-2000 Combined Healthy Mortality Table projected with scale AA to 2021 set back three years for males and set forward one year for females weighted 90% male and 10% female for member RP-2000 Combined Healthy Mortality Table projected with scale AA to 2021 set back three years for males and set forward one year for females weighted 10% male and 90% female for beneficiary
Salary Increase:	See Exhibit V in Section 4

Appendix B
Allocation of Actuarial Surplus

	June 30	
	2014	2013
Surplus as of Date of Valuation (Table 1)	$136,620,968	$63,563,388
Actuarial Surplus (Table 1)	36,018,168	0
Distributable Actuarial Surplus as of date of valuation (Table 2)	2,220,614	0
Allocation of Distributable Surplus as of Date of Valuation:		
City Allocation (Table 3)	1,480,409	0
PRSB Allocation (Table 3)	740,205	0
Total	$2,220,614	$0
Allocation of Projected Distributable Surplus as of Date of Next Valuation:		
City Allocation (Table 3)	$2,478,394	$0

The Allocation of Distributable Actuarial Surplus is sufficient to:

- Only partially offset the City's contribution requirement for the 2015-2016 fiscal year from $21,678,417 to $19,200,023 (see Table 4); and
- Provide a PRSB benefit of $44.70 per month over the 2015 calendar year (see Table 5) under the current policy of 80% distribution.

Appendix B
Allocation of Actuarial Surplus (Continued)

	June 30	
	2014	**2013**
Table 1: Calculation of Actuarial Surplus		
(1) Valuation Value of Assets	$1,142,648,968	$1,061,399,388
(2) Actuarial Accrued Liability	1,006,028,000	997,836,000
(3) Surplus: (1) – (2)	136,620,968	63,563,388
(4) Contingency Reserve: 10% of (2), not more than (3)	100,602,800	63,563,388
(5) Actuarial Surplus: (3) – (4)	36,018,168	0
Table 2: Determination of Distributable Actuarial Surplus		
(1) Actuarial Surplus (Table 1)	$36,018,168	$0
(2) Amortization of Balance of Actuarial Surplus:		
a. Amortization Period	25	25
b. Amortization Factor	0.061653	0.061653
c. Amortization of Balance of Actuarial Surplus (1) x (2b)	$2,220,614	$0
(3) Projected Surplus for Next Year[(1)]	$60,299,010	$0
(4) Amortization of Balance of Projected Actuarial Surplus:		
a. Amortization Period	25	25
b. Amortization Factor	0.061653	0.061653
c. Amortization of Balance of Projected Actuarial Surplus (3) x (4b)	$3,717,590	$0

[(1)] *The projected actuarial surplus as of June 30, 2015 is calculated by first projecting the market value of assets from June 30, 2014 to June 30, 2015 at the assumed market value rate of return of 7.50% for the 2014/2015 plan year (which produces a return of 9.47% on an actuarial value basis). The actuarial accrued liability is projected separately from June 30, 2014 to June 30, 2015, and the projected surplus is then the difference between the two projected amounts.*

Appendix B
Allocation of Actuarial Surplus (Continued)

	June 30	
	2014	2013
Table 3: Allocation of Distributable Actuarial Surplus:		
(1) Distributable Actuarial Surplus	$2,220,614	$0
(2) City Allocation: (1) x 2/3	1,480,409	0
(3) PRSB Allocation: (1) – (2)	740,205	0
The City Allocation (2) (along with any City Surplus Reserve and City Prepaid Contribution Accounts) is available to reduce the City's contributions for the fiscal year that commences immediately following the date of the valuation.		
The PRSB Allocations (along with the PRSB Reserve Account) is available to provide retirees, beneficiaries and DROP participants a monthly PRSB benefit during the calendar year that commences 6 months following the date of the valuation. The benefit is derived in Table 5.		
(4) Next Year Projected Distributable Actuarial Surplus	3,717,590	0
(5) City Allocation (4) x ⅔	2,478,394	0
The City allocation (5) (along with any City Surplus Reserve and City Prepaid Contribution Accounts) is available to reduce City contributions for the fiscal year that commences 12 months following the date of the valuation. Table 4 provides the projected City contribution requirements.		
The actual rather than the projected surplus will be used to determine the next calendar year's PRSB benefit.		

Appendix B
Allocation of Actuarial Surplus (Continued)

	Fiscal Year 2015-2016			Fiscal Year 2014-2015		
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total
Table 4: City Contribution Requirements Prepared using Recommended Procedure:						
(1) a. City Normal Cost Rate	26.88%	22.07%	22.70%	27.80%	22.09%	22.91%
b. Adjustment for Phase-In of Assumption Changes	-0.99%	-0.99%	-0.99%	-1.99%	-1.99%	-1.99%
c. City Contribution Rate after Adjustment for Phase-In of Assumption Changes	25.89%	21.08%	21.71%	25.81%	20.10%	20.92%
(2) Projected Annual Payroll	$13,016,475	$86,852,238	$99,868,713	$12,546,000	$83,713,000	$96,259,000
(3) City Allocation of Distributable Actuarial Surplus	230,133	1,250,276	1,480,409	0	0	0
(4) City Surplus Reserve Account (From Prior Years)	0	0	0	15,170	78,830	94,000
(5) ½ Year Interest on (4)	0	0	0	569	2,956	3,525
(6) Total Contribution Offsets (3) + (4) + (5)	230,133	1,250,276	1,480,409	15,739	81,786	97,525
(7) Total Contribution Requirement (1c) * (2)	3,369,965	18,308,452	21,678,417	3,238,123	16,826,313	20,064,436
(8) City Contribution Requirement Prior To Application of Prepaid Employer Contribution Account (7) – (6), not less than 0	3,139,832	17,058,176	20,198,008	2,983,466	15,503,036	18,486,502
(9) Contribution Rate Adopted by the City for Fiscal Year 2014-2015						20.83%
(10) Projected City Contributions Based on Rate Adopted by the City (9) * (2)				2,613,332	17,437,418	20,050,750
(11) Net Additional City Contribution Before Application of Prepaid Employer Contribution Account (8) – (10)	3,139,832	17,058,176	20,198,008	609,052	-692,891	-83,839
(12) City's Prepaid Employer Contribution Account Balance (Negative Account Balance Represents Contribution Shortfall)			86,983[(1)]			0
(13) ½ Year Interest on (12)			3,262			0
(14) a. City's Fiscal Year Contribution After Application of Prepaid Employer Contribution Account (11) – (12) – (13), not less than 0	3,125,804	16,981,960	20,107,763	609,052	-692,891	-83,839
b. City's Fiscal Year 2015/2016 Contribution Rate			20.14%			
(15) Projected City Surplus Reserve Account for Future Years			0			0
(16) Projected Residual Prepaid Employer Contribution Account at Year End. (12) + (13) – (11) Adjusted with ½ Year Interest (Negative Account Balance Represents Contribution Shortfall			0			86,983

[(1)] *Contribution shortfall based on the projection of the prepaid contribution account balance*

Appendix B
Allocation of Actuarial Surplus (Continued)

	Fiscal Year 2015-2016			Fiscal Year 2014-2015		
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total
Table 4: City Contribution Requirements Prepared using Historical Procedure:						
(1) a. City Normal Cost Rate	26.88%	22.07%	22.70%	27.80%	22.09%	22.91%
b. Adjustment for Phase-In of Assumption Changes	-0.99%	-0.99%	-0.99%	-1.99%	-1.99%	-1.99%
c. City Contribution Rate after Adjustment for Phase-In of Assumption Changes	25.89%	21.08%	21.71%	25.81%	20.10%	20.92%
(2) Projected Annual Payroll	$13,016,475	$86,852,238	$99,868,713	$12,546,000	$83,713,000	$96,259,000
(3) City Allocation of Distributable Actuarial Surplus	385,273	2,093,121	2,478,394	238,918	1,241,491	1,480,409
(4) City Surplus Reserve Account (From Prior Years)	0	0	0	15,170	78,830	94,000
(5) ½ Year Interest on (4)	0	0	0	569	2,956	3,525
(6) Total Contribution Offsets (3) + (4) + (5)	385,273	2,093,121	2,478,394	254,657	1,323,277	1,577,934
(7) Total Contribution Requirement (1c) * (2)	3,369,965	18,308,452	21,678,417	3,238,123	16,826,313	20,064,436
(8) City Contribution Requirement Prior To Application of Prepaid Employer Contribution Account (7) – (6), not less than 0	2,984,692	16,215,331	19,200,023	2,983,466	15,503,036	18,486,502
(9) Contribution Rate Adopted by the City for Fiscal Year 2014-2015						20.83%
(10) Projected City Contributions Based on Rate Adopted by the City (9) * (2)				2,613,332	17,437,418	20,050,750
(11) Net Additional City Contribution Before Application of Prepaid Employer Contribution Account (8) – (10)	2,984,692	16,215,331	19,200,023	370,134	-1,934,382	-1,564,248
(12) City's Prepaid Employer Contribution Account Balance (Negative Account Balance Represents Contribution Shortfall)			1,622,907[1]			0
(13) ½ Year Interest on (12)			60,859			0
(14) a. City's Fiscal Year Contribution After Application of Prepaid Employer Contribution Account (11) – (12) – (13), not less than 0	2,722,947	14,793,310	17,516,257	370,134	-1,934,382	-1,564,248
b. City's Fiscal Year 2015/2016 Contribution Rate			17.54%			
(15) Projected City Surplus Reserve Account for Future Years			0			0
(16) Projected Residual Prepaid Employer Contribution Account at Year End. (12) + (13) – (11) Adjusted with ½ Year Interest (Negative Account Balance Represents Contribution Shortfall			0			1,622,907

[1] *Contribution shortfall based on the projection of the prepaid contribution account balance*

Appendix B
Allocation of Actuarial Surplus (Continued)

	June 30	
	2014	2013
Table 5: Calculation of PRSB and PRSB Reserve Account:		
(1) PRSB Allocation of Distributable Actuarial Surplus	$740,205	$0
(2) Distribution percentage	80%	80%
(3) Preliminary PRSB distribution: (1) x (2)	$592,164	$0
(4) Number of eligible participants (Retirees, Beneficiaries & DROP Participants)	1,104	992
(5) Preliminary Monthly PRSB Benefit: (3) / (4) / 12	$44.70	$0.00
(6) Monthly Retiree Medical Trust Premium for the calendar year that commences 6 months following the date of valuation	$1,084.00	$1,084.00
(7) Benefit Shortfall: (6) – (5)	$1,039.30	$1,084.00
(8) PRSB Reserve Account	$0	$67,000
(9) Estimated July 1 to December 31 PRSB Payments	$0	$67,000
(10) Net PRSB Reserve Account 6 months following the date of valuation	$0	$0
(11) Draw from PRSB Reserve Account (lesser of (10) / (4) /12 or (7))	$0.00	$0.00
(12) Final monthly PRSB Benefit for next calendar year: (5) + (11)	$44.70	$0.00
(13) Estimated PRSB Reserve Account at the end of the next calendar year: (1) + (10) – [(12) * (4) * 12]	$148,019	$0

Note: The actual, rather than the projected 2015 surplus, will be used to determine the 2016 calendar year PRSB benefit.

Appendix C
UAAL Amortization Schedule as of June 30, 2014 (Dollar Amounts in Thousands)

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment
	June 30, 2014	UAAL	N/A	N/A	N/A	N/A
Grand Total				N/A		N/A

5332687v3/09328.002