City of Fresno Fire and Police Retirement System

Actuarial Valuation and Review as of June 30, 2008

SEGAL

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January 5, 2009

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

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2008. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2009-2010 and analyzes the preceding year's experience.

The census and financial information were prepared by the City of Fresno Fire and Police Retirement System. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, Enrolled Actuary.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices.   In our opinion, the combined operation of the assumptions and the methods applied in this valuation fairly represent past and anticipated future experience of the Retirement System and meet the parameters required by GASB Statement 25. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The undersigned are members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion herein.

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

Sincerely,

THE SEGAL COMPANY

By:

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

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

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SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

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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, 2008. 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, 2008, provided by the Retirement System;
- The assets of the System as of June 30, 2008, 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, 2008, there is an actuarial surplus (or prefunded actuarial accrued liability) as the System has valuation value of assets that are in excess 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 prior year's information.

Please note that the Actuarial Standards Board has recently adopted a revised Actuarial Standard of Practice (ASOP) No. 4 that provides guidelines that actuaries have to follow when selecting actuarial assumptions. 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.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2009 through June 30, 2010.

Significant Issues in Valuation Year

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

Ref: Page 32

- In the June 30, 2007 valuation, the ratio of the valuation value of assets to actuarial accrued liabilities was 129.5%. In this June 30, 2008 valuation, the funding ratio has decreased to 128.5%. The funding ratio as of June 30, 2008 if measured using the market value of assets instead of the valuation value of assets is 120.4%.
- The Retirement System's prefunded actuarial accrued liability (PAAL) as of June 30, 2007 was $227.7 million. In this year's valuation, the PAAL has increased to $236.7 million.

Ref: Page 27

- The Plan had a net actuarial experience gain of about $8.2 million. A reconciliation of the System's PAAL is provided in Section 3, Exhibit H.

Ref: Page 15

- The aggregate employer rate calculated in this valuation has increased from 7.32% of payroll to 11.74% of payroll. The reasons for this change are: (i) the credit from prepaid employer contributions would be exhausted as of June 30, 2009, so that a rate credit is no longer available for fiscal year 2009/2010, (ii) a projected contribution shortfall for fiscal year 2008-2009 from higher than expected payroll growth, because the sum of the allocated surplus and the balance in the prepaid contribution account is expected to be insufficient to satisfy the City's contribution requirement for fiscal year 2008-2009 (iii) lower surplus offset due to higher than expected payroll, (iv) higher than expected return on investments, (v) higher than expected salary increases, (vi) higher than expected retiree COLA increases, (vii) anticipation of conversion of sick leave for non-management Police employees and (viii) other experience gains or losses. A reconciliation of the Retirement System's aggregate employer rate is provided in Section 2, Subsection D (see Chart 14).

Ref: Page 16

- The aggregate member rate calculated in this valuation has decreased slightly from 8.57% of payroll to 8.56% of payroll. The change in member rate is due to change in membership demographics as there is no change in the individual entry age based Tier 1 member rates or the fixed 9% Tier 2 member rate. A reconciliation of the Retirement System's aggregate member rate is provided in Section 2, Subsection D (see Chart 15).

Ref: Page 36

- With the exception of the introduction of an assumption (discussed below) to anticipate the conversion of unused sick leave to increase final average salary at retirement for non-management Police members, there are no other changes in actuarial assumptions in the June 30, 2008 valuation. A description of these assumptions can be found in Section 4 Exhibit IV of this report.

Ref: Page 6

- As indicated in Section 2, Subsection B (see Chart 7) of this report, the total unrecognized investment loss as of June 30, 2008 is $67.5 million. These investment losses will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, and will offset any investment gains that may occur after June 30, 2008. This implies that if the Retirement System earns the assumed net rate of investment return of 8.25% per year on a **market value** basis, it will result in investment losses on the actuarial value of assets in the next few years. So, if the actual market return is equal to the assumed 8.25% rate and all other actuarial assumptions are met, the contribution requirements would increase in each of the next few years.
- The actuarial surplus as of June 30, 2008 (see Appendix B) would be adjusted in future valuations to reflect the deferred investment losses mentioned above. If all the deferred investment losses were to be recognized immediately, the actuarial surplus would be reduced by $67.5 million.

Ref: Page 56

- Under the Board's current policy, 95% of the Actuarial Surplus allocated to the PRSB as of June 30, 2008 would be used in determining the monthly PRSB benefit payable in calendar year 2009. As requested by the Administrative Committee and following consultation with the Retirement System, we included 80% and 75% as alternative distribution percentages in the PRSB calculation (see Appendix B) in addition to the current policy of 95% distribution for the PRSB.
- In the last valuation, we introduced an assumption to anticipate the conversion of unused sick leave to increase final average salary at retirement for non-management Fire members. We did not include an assumption for similar conversion from non-management Police members due to lack of data. Based on data provided by the System this year for non-management Police members, it was determined that this would increase the benefits for eligible Police members by about 6.4%. Since 68% of the System's active members are potentially eligible for this conversion, we have increased the actuarial accrued liability and normal cost rate for all active members by an additional 4.4% to anticipate this conversion. As the actuarial accrued liability and normal cost rate have been adjusted by 2.6% for non-management Fire members, the combined conversion assumption for all non-management members combined is 7.0%.
- The actuarial valuation report as of June 30, 2008 is based on financial information as of that date. Changes in the value of assets subsequent to that date, to the extent that they exist, 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.

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, 2008		June 30, 2007	
Employer Contribution Rates:	Total Rate	Estimated Annual Amount [1]	Total Rate	Estimated Annual Amount [1]
Tier 1 Normal Cost Rate	26.38%	$6,163		
Tier 2 Normal Cost Rate	18.49%	14,701		
All Categories Combined	20.28%	20,864	19.44%	$19,998
Surplus Offset	-8.93%	-9,189	-9.66%	-9,937
Prepaid Contributions	0.00%	0	-2.46% [3]	-2,531 [3]
Contribution Shortfall from Prior Fiscal Year	0.39%	402	0.00%	0
Required Contributions	11.74%	12,077	7.32%	7,530
Average Member Contribution Rates:	Total Rate	Estimated Annual Amount [2]	Total Rate	Estimated Annual Amount [2]
Tier 1	4.89%	$459	4.94%	$463
Tier 2	9.00%	7,110	9.00%	7,110
All Categories Combined	8.56%	7,569	8.57%	7,573
Funded Status:				
Actuarial Accrued Liability	$830,036		$773,236	
Valuation Value of Assets	$1,066,778		$1,000,961	
Funded Percentage	128.5%		129.5%	
Prefunded Actuarial Accrued Liability	$236,742		$227,725	
Key Economic Assumptions:				
Interest Rate	8.25%		8.25%	
Inflation Rate	3.75%		3.75%	
Across-the-Board Salary Increase	0.25%		0.25%	

(1) *Based on projected fiscal year 2009-2010 annual payroll for active non-DROP and DROP members of $102,869.*
(2) *Based on projected fiscal year 2009-2010 annual payroll for members not in the DROP of $88,377.*
(3) *Before limiting actual credit to amount available from prepaid contributions account balance.*

Summary of Key Valuation Demographic and Financial Data

	June 30, 2008	June 30, 2007	Percentage Change
Active Members:			
Non-DROP			
Number of members	1,017	956	6.4%
Average age	37.0	36.8	N/A
Average service	8.4	8.4	N/A
Projected total compensation [1]	$84,977,945	$75,054,546	13.2%
Average projected compensation	$83,557	$78,509	6.4%
DROP			
Number of members	165	174	-5.2%
Average age	54.8	54.9	N/A
Average service	23.8	24.1	N/A
Projected total compensation [1]	$13,934,644	$14,461,649	-3.6%
Average projected compensation	$84,452	$83,113	1.6%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	332	322	3.1%
Disability retired	295	293	0.7%
Beneficiaries	229	232	-1.3%
Total	856	847	1.1%
Average age	66.3	66.2	N/A
Average monthly benefit [2]	$3,533	$3,383	4.4%
Vested Terminated Members:			
Number of vested terminated members [3]	73	69	5.8%
Average age	36.8	36.7	N/A
Summary of Financial Data (dollar amounts in thousands):			
Market value of assets	$1,088,049	$1,193,398	-8.8%
Return on market value of assets	-6.48%	16.81%	N/A
Actuarial value of assets	$1,155,503	$1,076,254	7.4%
Return on actuarial value of assets	10.19%	13.66%	N/A
Valuation value of assets	$1,066,778	$1,000,961	6.6%
Return on valuation value of assets	9.24%	13.03%	N/A

(1) *June 30, 2007 payroll was projected payroll for plan year 2007-2008. June 30, 2008 payroll was projected payroll for plan year 2008-2009.*

(2) *Excludes supplemental benefits paid from PRSB.*

(3) *Includes terminated members due a refund of member contributions.*

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 five valuations can be seen in this chart.

CHART 1

Member Population: 2004 – 2008

Year Ended June 30	Active Members[1]	Vested Terminated Members[2]	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2004	1,017	21	771	0.78
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

[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 1,017 non-DROP active members with an average age of 37.0 years, average years of service of 8.4 and average compensation of $83,557. The 956 non-DROP active members in the prior valuation had an average age of 36.8 years, average service of 8.4 and average compensation of $78,509.

Inactive Members
In this year's valuation, there were 73 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 69 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, 2008

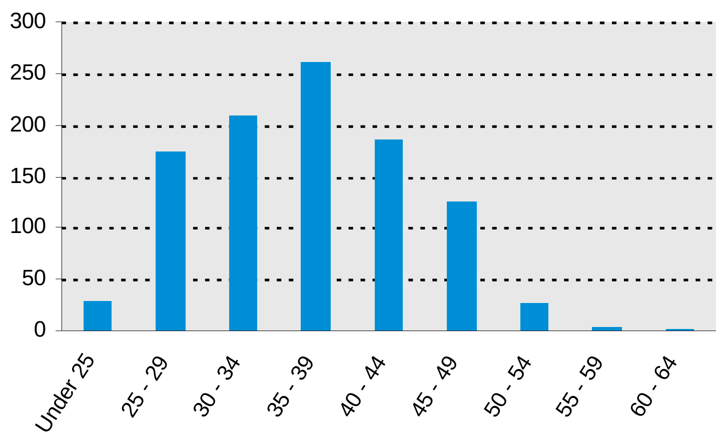
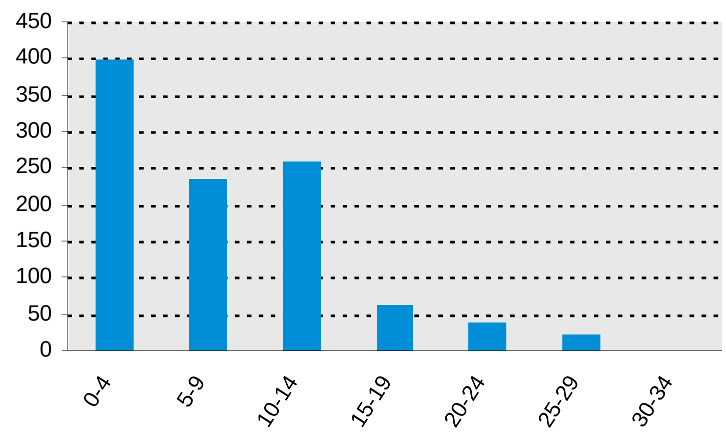


CHART 3

Distribution of Non-DROP Active Members by Years of Service as of June 30, 2008



DROP Active Members
In this year's valuation, there were 165 DROP active members with an average age of 54.8 years, average years of service of 23.8 and average compensation of $84,452. The 174 DROP active members in the prior valuation had an average age of 54.9 years, average service of 24.1 years and average compensation of $83,113.

Retired Members and Beneficiaries
As of June 30, 2008, 627 retired members and 229 beneficiaries were receiving total monthly benefits of $3,024,165. For comparison, in the previous valuation, there were 615 retired members and 232 beneficiaries receiving monthly benefits of $2,865,672.

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, 2008

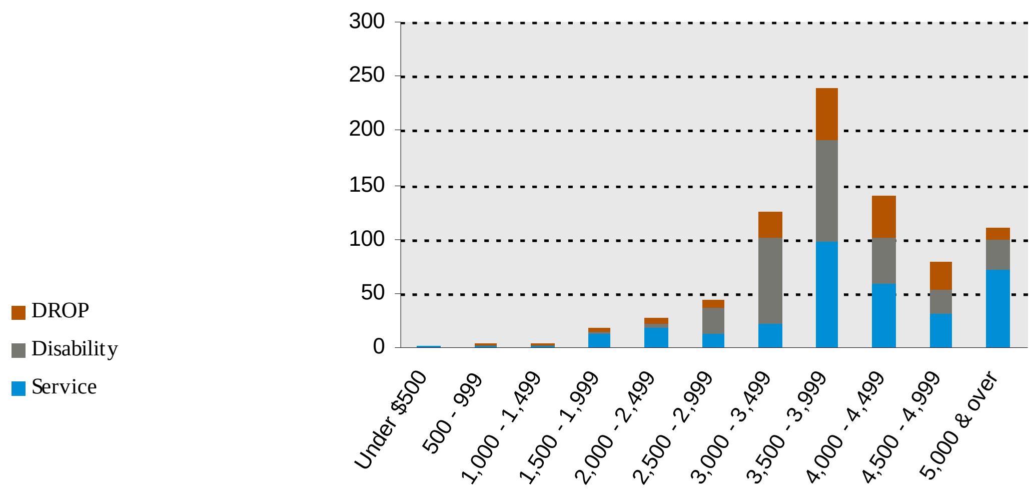
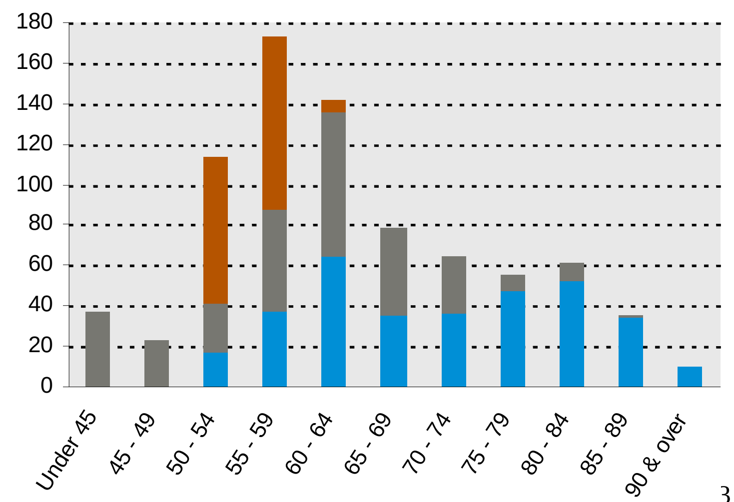


CHART 5

Distribution of Retired Members (Excl. Beneficiaries) by Type and by Age as of June 30, 2008



B. FINANCIAL INFORMATION

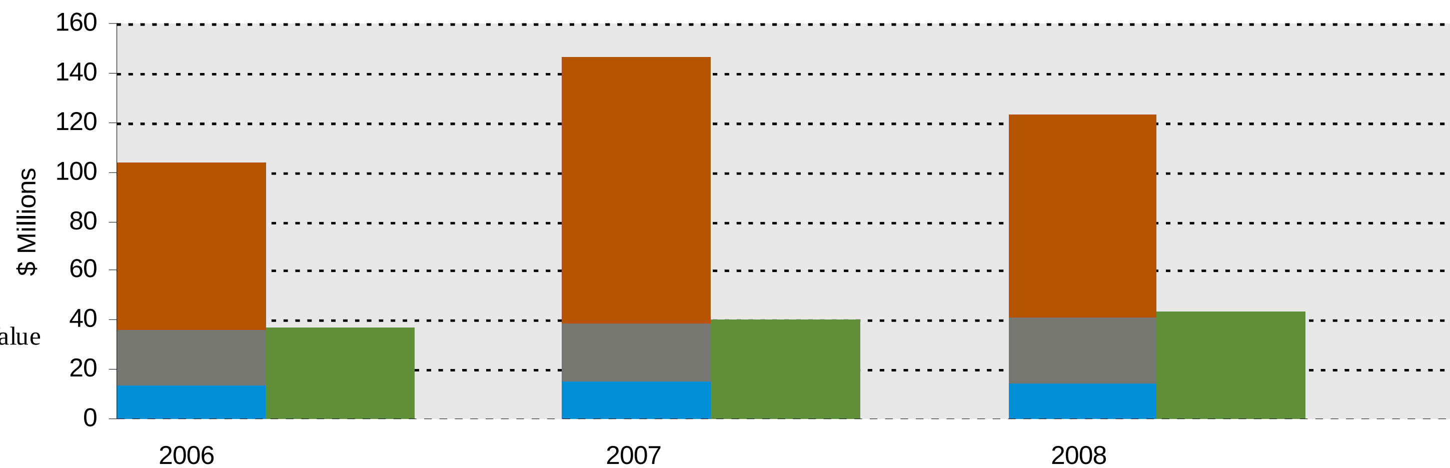
Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

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 three 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, 2006-2008



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 Value of Assets is provided on the following page.

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

CHART 7

Determination of Actuarial and Valuation Value of Assets for Year Ended June 30, 2008

Plan Year Ending June 30	Total Actual Market Return	Expected Return	Investment Gain/(Loss)*	Deferred Factor	Deferred Return
2004	N/A	N/A	$80,487,543	0.0	$0
2005	$ 91,761,097	$64,599,953	27,161,144	0.2	5,432,229
2006	110,590,200	78,043,274	32,546,926	0.4	13,018,770
2007	173,484,408	85,166,893	88,317,515	0.6	52,990,509
2008	(76,360,019)	97,259,541	(173,619,560)	0.8	(138,895,648)

1.	Total Deferred Return	($67,454,140)
2.	Net Market Value	1,088,048,705
3.	Actuarial Value of Assets (Item 2 – Item 1)	$1,155,502,845
4.	Non-Valuation Reserves	88,725,000
5.	Valuation Value of Assets (Item 3 – Item 4)	$1,066,777,845

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

Deferred return as of June 30, 2008 recognized in each of the next four years:

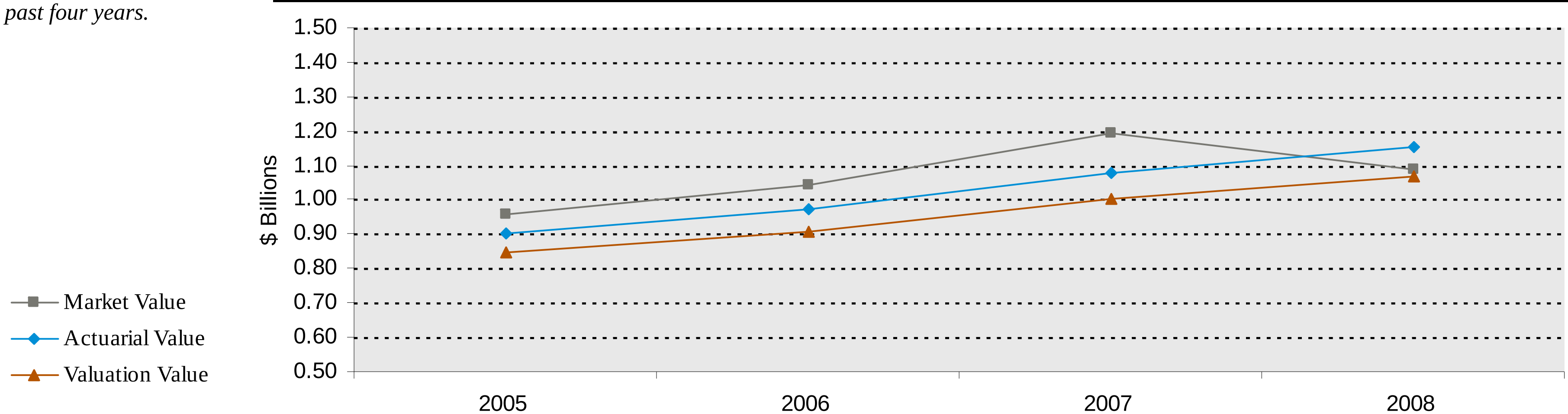
6/30/2009	$(5,118,795)
6/30/2010	(10,551,024)
6/30/2011	(17,060,409)
6/30/2012	(34,723,912)
	$(67,454,140)

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 asset value is significant because the Retirement System's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the prefunded 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 four years.

CHART 8

Market Value, Actuarial Value and Valuation Value of Assets as of June 30, 2005-2008



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 $8.2 million, including a gain of $9.8 million from investments and a loss of $1.6 million from all other sources. The net experience variation from individual sources other than investments was 0.2% 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, 2008

1.	Net gain/(loss) from investments [1]	$9,824,000
2.	Net gain/(loss) from other experience [2]	-1,602,000
3.	Net experience gain/(loss): (1) + (2)	$8,222,000

(1) *Details in Chart 10.*

(2) *See 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 8.25% (based on June 30, 2007 valuation). The actual rate of return on a valuation basis for the 2008 plan year was 9.24%.

Since the actual return for the year was more than the assumed return, the Retirement System experienced an actuarial gain during the year ended June 30, 2008 with regard to its investments.

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

CHART 10

Investment Experience for Year Ended June 30, 2008 – Valuation Value and Actuarial Value of Assets

	Valuation Value	Actuarial Value
1. Actual return	$91,350,305	$108,238,256
2. Average value of assets	988,194,369	1,061,759,394
3. Actual rate of return: (1) ÷ (2)	9.24%	10.19%
4. Assumed rate of return	8.25%	8.25%
5. Expected return: (2) x (4)	81,526,035	87,595,150
6. Actuarial gain/(loss): (1) – (5)	$9,824,270	$20,643,106

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, valuation, and market basis for the last four years.

In this valuation, we have continued to apply the 8.25% investment return assumption adopted by the Board for the last actuarial valuation.

CHART 11

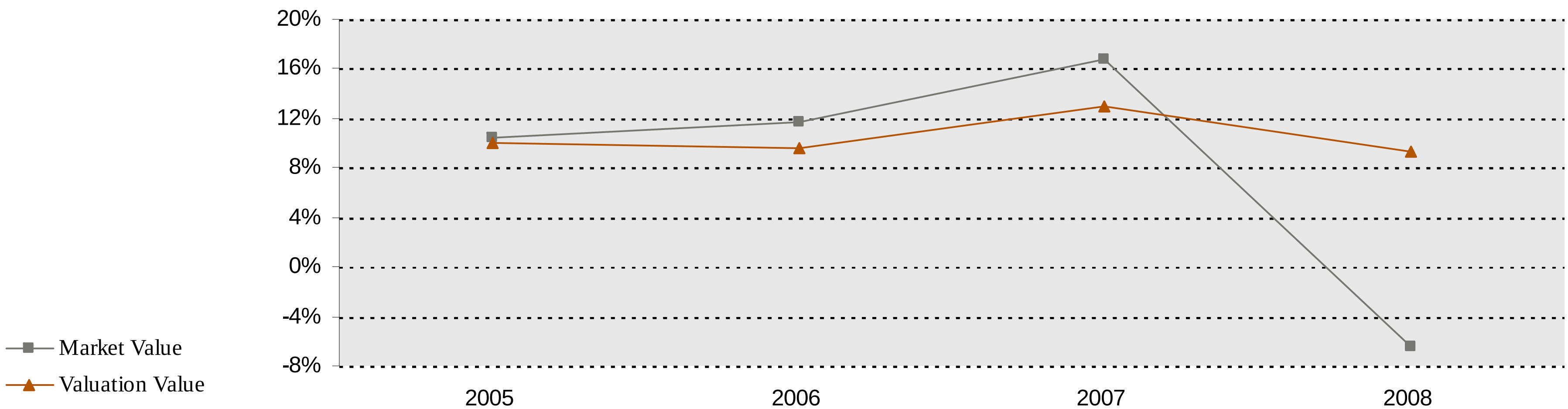
Investment Return – Actuarial Value, Valuation Value and Market Value: 2005 - 2008

	Valuation Value Investment Return		Actuarial Value Investment Return		Market Value Investment Return	
Year Ended June 30	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
2005	$73,717,200	10.02%	N/A	N/A	$91,761,097	10.45%
2006	80,618,910	9.64%	$90,688,128	10.17%	110,590,200	11.69%
2007	116,690,509	13.03%	130,869,517	13.66%	173,484,408	16.81%
2008	91,350,305	9.24%	108,238,256	10.19%	(76,360,019)	(6.48%)

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 and Valuation Rates of Return for Years Ended June 30, 2005 – June 30, 2008



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 loss from this other experience for the year ended June 30, 2008 amounted to $1.6 million which is 0.2% of the actuarial accrued liability. See 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 4.00% (i.e., 3.75% inflation plus 0.25% real across-the-board salary increase). 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% pay (§3-405)

CHART 13

Recommended Employer Contribution Rates (Dollar Amounts in Thousands)

	June 30, 2008		June 30, 2007	
Tier 1 Members	**Rate**	**Estimated Annual Amount***	**Rate**	**Estimated Annual Amount***
Normal Cost	26.38%	$6,163		
Tier 2 Members				
Normal Cost	18.49%	$14,701		
All Categories Combined				
Normal Cost	20.28%	$20,864	19.44%	$19,998
Surplus Offset	-8.93%	-9,189	-9.66%	-9,937
Prepaid Contribution	0.00%	0	2.46%**	-2,531**
Contribution Shortfall from Prior Fiscal Year	0.39%	402	0.00%	0
Total Contribution	11.74%	$12,077	7.32%	$7,530

* *Amounts are in thousands and are based on projected fiscal year 2009 – 2010 annual payroll for active non-DROP and DROP members (also in thousands).*

***Before limiting actual credit to amount available from prepaid contribution account balance.*

Tier 1	$23,361
Tier 2	79,508
Total	$102,869

The employer contribution rates as of June 30, 2008 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.

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

CHART 14

Reconciliation of Recommended Employer Contribution from June 30, 2007 to June 30, 2008 (Dollars in Thousands)

	Contribution Rate	Estimated Amount*
Recommended Contribution Rate as of June 30, 2007	7.32%	$7,530
Effect of actuarial experience during 2007:		
1. Effect of investment gain	-0.60%	-$617
2. Effect of higher than expected salary increases	0.51%	525
3. Effect of higher than expected retiree COLA increases	0.17%	175
4. Effect of fewer than expected disabilities from Tier 2 active members	-0.23%	-237
5. Effect of lower surplus offset due to higher than expected payroll	0.56%	576
6. Effect of other experience (gains)/losses	-0.44%	-454
7. Effect of anticipation of conversion of sick leave to final average salary for non-management Police employees	1.60%	1,646
8. Effect of exhaustion of credit from prepaid employer contributions	2.46%	2,531
9. Effect of contribution shortfall based on the projection of the prepaid contribution account balance	0.39%	402
Subtotal	4.42%	$4,547
Recommended Contribution Rate as of June 30, 2008	11.74%	$12,077

* *Based on projected fiscal year 2009 – 2010 annual payroll of $102,869 for active non-DROP and DROP members.*

The member contribution rates as of June 30, 2008 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, 2007 to June 30, 2008 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Amount[1]
Average Contribution Rate as of June 30, 2007	8.57%	$7,573
1. Effect of change in membership demographics	-0.01%	-$4
Average Contribution Rate as of June 30, 2008	8.56%	$7,569

(1) *Based on projected fiscal year 2009-2010 annual payroll for members NOT in the DROP of $88,377.*

E. INFORMATION REQUIRED BY GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contributions to the actual contributions. This comparison demonstrates whether a plan is being funded on an actuarially sound basis and in accordance with the GASB funding requirements. Chart 16 below presents a graphical representation of this information for the Plan.

The other 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 under GASB. 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 details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits I, II, and III.

These graphs show key GASB factors.

CHART 16

Required Versus Actual Contributions

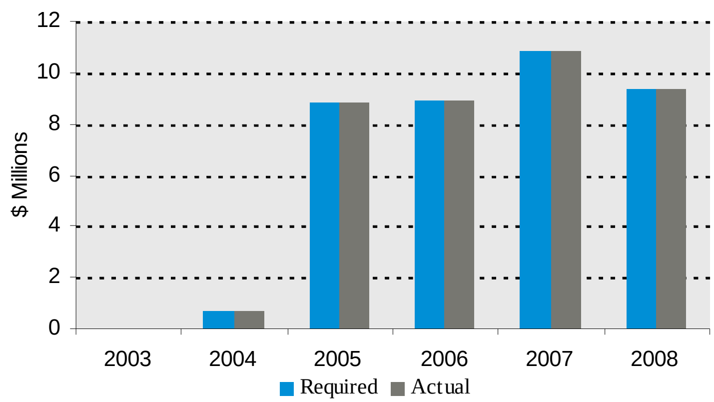


CHART 17

Funded Ratio

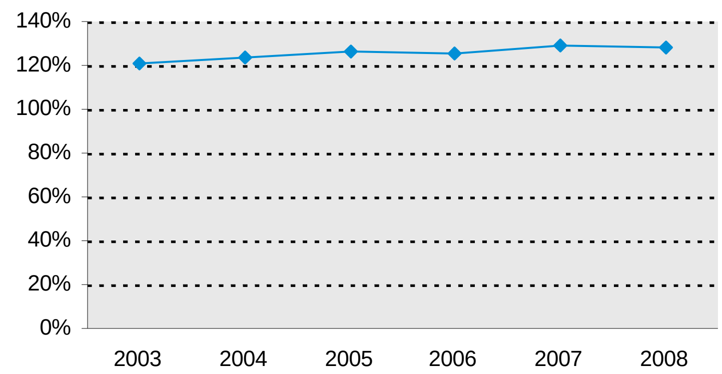


EXHIBIT A

Table of Plan Coverage

i. Tier 1

Category	Year Ended June 30 2008	 2007	Change From Prior Year
Active members in valuation			
Non-DROP			
Number	89	105	-15.2%
Average age	47.1	46.7	N/A
Average service	22.4	21.6	N/A
Projected total compensation	$9,020,962	$9,752,178	-7.5%
Projected average compensation	$101,359	$92,878	9.1%
Member account balances	$15,359,889	$16,763,670	-8.4%
Total active vested members	89	105	-15.2%
DROP			
Number	159	169	-5.9%
Average age	54.7	54.8	N/A
Average service	24.3	24.5	N/A
Projected total compensation	$13,441,921	$14,045,067	-4.3%
Projected average compensation	$84,540	$83,107	1.7%
Vested terminated members			
Number	6	8	-25.0%
Average age	48.3	47.9	N/A
Retired members			
Number in pay status	328	319	2.8%
Average age	71.4	71.6	N/A
Average monthly benefit[1]	$4,228	$4,059	4.2%
Disabled members			
Number in pay status	251	252	-0.4%
Average age	62.3	61.8	N/A
Average monthly benefit[1]	$3,995	$3,855	3.6%
Beneficiaries			
Number in pay status	228	232	-1.7%
Average age	68.7	68.2	N/A
Average monthly benefit[1]	$2,163	$2,043	5.9%

[1] *Excludes supplemental benefits paid from PRSB.*

EXHIBIT A

Table of Plan Coverage

ii. Tier 2

Category	Year Ended June 30: 2008	Year Ended June 30: 2007	Change From Prior Year
Active members in valuation			
Non-DROP			
Number	928	851	9.0%
Average age	36.0	35.6	N/A
Average service	7.0	6.7	N/A
Projected total compensation	$75,956,983	$65,302,368	16.3%
Projected average compensation	$81,850	$76,736	6.7%
Member account balances	$55,638,156	$46,005,710	20.9%
Total active vested members	529	472	12.1%
DROP			
Number	6	5	20.0%
Average age	56.7	57.0	N/A
Average service	10.7	10.2	N/A
Projected total compensation	$492,723	$416,582	18.3%
Projected average compensation	$82,120	$83,316	-1.4%
Vested terminated members			
Number	67	61	9.8%
Average age	35.7	35.3	N/A
Retired members			
Number in pay status	4	3	33.3%
Average age	53.9	53.4	N/A
Average monthly benefit(1)	$1,167	$1,452	-19.6%
Disabled members			
Number in pay status	44	41	7.3%
Average age	41.2	40.1	N/A
Average monthly benefit(1)	$3,054	$2,952	3.5%
Beneficiaries			
Number in pay status	1	0	N/A
Average age	34.5	N/A	N/A
Average monthly benefit(1)	$2,369	N/A	N/A

1) *Excludes supplemental benefits paid from PRSB.*

EXHIBIT B

Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2008– 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	21	- -	- -	- -	14	7	- -	- -	- -	- -
	$108,022	- -	- -	- -	$100,286	$123,495	- -	- -	- -	- -
45 - 49	63	- -	- -	- -	12	31	20	- -	- -	- -
	99,278	- -	- -	- -	88,966	96,997	$109,002	- -	- -	- -
50 - 54	5	- -	- -	- -	2	- -	2	1	- -	- -
	99,593	- -	- -	- -	97,805	- -	109,444	$83,467	- -	- -
55 - 59	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	89	- -	- -	- -	28	38	22	1	- -	- -
	$101,359	- -	- -	- -	$95,257	$101,878	$109,042	$83,467	- -	- -

** Excludes 159 active members in DROP with projected average compensation of $84,540.*

EXHIBIT B

Members in Active Service and Projected Average Compensation
By Age, Years of Service as of June 30, 2008– 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	29	29	- -	- -	- -	- -	- -	- -	- -
	$63,006	$63,006	- -	- -	- -	- -	- -	- -	- -
25 - 29	174	155	19	- -	- -	- -	- -	- -	- -
	73,451	71,483	$89,507	- -	- -	- -	- -	- -	- -
30 - 34	209	110	84	15	- -	- -	- -	- -	- -
	79,808	73,755	86,063	$89,171	- -	- -	- -	- -	- -
35 - 39	261	68	77	114	2	- -	- -	- -	- -
	84,552	74,633	85,566	89,717	$88,374	- -	- -	- -	- -
40 - 44	164	23	38	87	15	1	- -	- -	- -
	88,228	80,203	86,209	89,858	96,196	$88,219	- -	- -	- -
45 - 49	63	5	14	33	11	- -	- -	- -	- -
	88,731	81,309	86,805	90,435	89,442	- -	- -	- -	- -
50 - 54	22	6	3	8	5	- -	- -	- -	- -
	86,840	88,181	83,694	85,813	88,760	- -	- -	- -	- -
55 - 59	4	2	- -	1	1	- -	- -	- -	- -
	88,073	81,649	- -	84,580	104,413	- -	- -	- -	- -
60 - 64	2	1	- -	1	- -	- -	- -	- -	- -
	139,465	194,548	- -	84,382	- -	- -	- -	- -	- -
65 – 69	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
70 & Over	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	928	399	235	259	34	1	- -	- -	- -
	$81,850	$73,267	$86,216	$89,663	$92,699	$88,219	- -	- -	- -

** Excludes 6 active members in DROP with projected average compensation of $82,120.*

EXHIBIT C

Reconciliation of Member Data – June 30, 2007 to June 30, 2008

	Non-DROP Active Members	Vested Terminated Members	Pensioners/ DROP**	Disableds	Beneficiaries	Total
Number as of June 30, 2007	956	69	496	293	232	2,046
New members	96	0	0	0	0	96
Terminations – with vested rights	-9	9	0	0	0	0
Contributions Refunds	-12	0	0	0	0	-12
Retirements/ DROP	-16	-2	18	0	0	0
New disabilities	-5	0	-4	9	0	0
Return to work	7	-6	0	-1	0	0
Died with or without beneficiary	0	0	-14	-6	-3*	-23
Data adjustments	0	3	1	0	0	4
Number as of June 30, 2008	1,017	73	497	295	229	2,111

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

** *Includes 174 and 165 active members in DROP as of June 30, 2007 and June 30, 2008, respectively.*

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2008		Year Ended June 30, 2007	
Contribution income:				
Employer contributions	$9,363,476		$10,806,791	
Employee contributions	6,187,642		5,393,526	
Less administrative expenses	-944,599		-887,983	
Net contribution income		$14,606,519		$15,312,334
Investment income:				
Interest, dividends and other income	$33,111,774		$30,256,830	
Adjustment toward market value	81,599,655		107,618,890	
Less investment fees	-6,473,173		-7,006,203	
Net investment income		108,238,256		130,869,517
Total income available for benefits		$122,844,775		$146,181,851
Less benefit payments:				
Benefit payments	-$39,493,929		-$36,810,507	
Post retirement supplemental benefits	-3,455,951		-2,872,008	
Refunds of contributions	-646,248		-453,920	
Net benefits payments		-$43,596,128		-$40,136,435
Change in reserve for future benefits		$79,248,647		$106,045,416

EXHIBIT E

Summary Statement of Assets

	Year Ended June 30, 2008		Year Ended June 30, 2007	
Cash equivalents		$2,728,472		$2,699,001
Accounts receivable:				
Receivables for investments sold	$8,959,897		$12,039,613	
Interest and dividends	4,120,809		4,326,118	
Others receivables	1,859,150		2,006,771	
Total accounts receivable		14,939,856		18,372,502
Investments:				
Domestic and international equity	$602,025,099		$705,825,231	
Government and corporate bonds	320,440,791		315,483,348	
Real estate	117,380,747		114,730,183	
Emerging market equity	31,124,104		39,013,071	
Collateral held for securities lent	177,979,889		228,692,383	
Other investments	17,364,513		27,843,434	
Total investments at market value		1,266,315,143		1,431,587,650
Total assets		$1,283,983,471		$1,452,659,153
Less accounts payable:				
Collateral held for securities lent	-$177,979,889		-$228,692,383	
Payable for investments and foreign currency purchased	-14,423,316		-23,006,465	
Prepaid employer contributions	-1,936,883		-2,542,961	
Other liabilities	-1,594,678		-5,019,011	
Total accounts payable		-$195,934,766		-$259,260,820
Net assets at market value		$1,088,048,705		$1,193,398,333
Net assets at actuarial value		$1,155,502,845		$1,076,254,198
Net assets at valuation value		$1,066,777,845		$1,000,961,198

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	$1,066,778
2. Present value of future member normal cost	$69,297
3. Present value of future employer normal cost	$165,364
4. Unfunded/(prefunded) actuarial accrued liability	-$236,742
5. Total current and future assets	$1,064,697
Liabilities	
6. Present value of benefits already granted, excludes current active DROP	$483,448
7. Present value of benefits for current active DROP	$141,298
8. Present value of benefits to be granted	$439,951
9. Total liabilities	$1,064,697

EXHIBIT G

Summary of Reported Asset Information as of June 30, 2008

	Reserves($000)
Employer Advance/Retired Reserves	$767,700
Reserve for Market Stabilization	184,379
Active Member Reserves	74,109
Other Reserve	(26,864)
DROP Reserve[1]	85,529
Reserve for PRSB[1]	3,196
Net Assets Held in Trust for Benefits	$1,088,049

[1] *Non-valuation reserve*

EXHIBIT H

Development of Unfunded /(Prefunded) Actuarial Accrued Liability as of June 30, 2008

		(Dollar amounts in Thousands)
1	Unfunded/(prefunded) actuarial accrued liability at beginning of year	-$227,725
2	Gross Normal Cost at middle of year	24,991
3	Actual employer and member contributions	-15,551
4	Interest (whole year on (1) plus half year on (2) + (3))	-18,398
5	Expected unfunded/(prefunded) actuarial accrued liability at end of year	-$236,683
6	Actuarial (gain)/loss due to all changes:	
	Experience (gain)/loss	
	a. Gain from investment	-$9,824
	b. Higher than expected salary increase	8,311
	c. Higher than expected COLA increases from continuing retirees	2,806
	d. Fewer disabilities than expected from Tier 2 active members	-3,717
	e. Other experience (gain)/loss	-5,798
	f. Subtotal	-$8,222
	Assumption changes	
	g. Anticipation of conversion of sick leave to final average salary for non-management Police employees	8,163
	h. Subtotal	-$59
7	Actual unfunded/(prefunded) actuarial accrued liability at end of year	-$236,742

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 $185,000 for 2008 and $195,000 for 2009. 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

Supplementary Information Required by GASB – Schedule of Employer Contributions (Dollar Amounts in Thousands)

Plan Year Ended June 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2003	$0	$0	N/A
2004	728	728	100.0%
2005	8,806	8,806	100.0%
2006	8,886	8,886	100.0%
2007	10,807	10,807	100.0%
2008	9,363	9,363	100.0%

EXHIBIT II

Supplementary Information Required by GASB – 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 as a Percentage of Covered Payroll (%) [(a) - (b)] / (c)
6/30/2003	$749,505	$617,879	$131,626	121.3	$65,247	201.7
6/30/2004	793,059	642,194	150,865	123.5	68,483	220.3
6/30/2005	846,718	670,101	176,617	126.4	73,422	240.6
6/30/2006	906,223	722,722	183,501	125.4	82,493	222.4
6/30/2007	1,000,961	773,236	227,725	129.5	89,516	254.4
6/30/2008	1,066,778	830,036	236,742	128.5	98,913	239.3

EXHIBIT III

Supplementary Information Required by GASB

Valuation date	June 30, 2008
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level percent of payroll for total Unfunded Actuarial Accrued Liability or Prefunded Actuarial Accrued Liability
Remaining amortization period	15 years open (non-declining) for all Prefunded Actuarial Accrued Liability
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. 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	8.25%
Inflation rate	3.75%
Real across-the-board salary increase	0.25%
Projected salary increases*	4.00% to 10.00%
Cost of living adjustments	4.00% of Tier 1 retirement income and 3.00% of Tier 2 retirement income
Plan membership:	
Retired members and beneficiaries receiving benefits	856
Terminated members entitled to, but not yet receiving benefits	73
DROP members	165
Active members	1,017
Total	2,111

* *Includes inflation at 3.75% plus real across-the-board salary increase of 0.25% plus merit and promotion increases. See Exhibit IV for these increases.*

EXHIBIT IV

Actuarial Assumptions and Actuarial Cost Method

Post – Retirement Mortality Rates:

Healthy:	1994 Group Annuity Mortality Table (separate tables for males and females) set back one year.
Disabled:	1981 Safety Disability Mortality Table set back five years.
Employee Contribution Rates and Optional Benefits:	1994 Group Annuity Mortality Table set back one year weighted 90% male and 10% female. For beneficiaries, 1994 Group Annuity Mortaility Table set back one year weighted 10% male and 90% female. Please note that in determining optional benefits for disabled members, the 1981 Safety Disabled Mortality Table set back five years is used instead.

Termination Rates Before Retirement:

Rate (%)

Mortality

	Tier 1 & Tier 2	
Age	**Male**	**Female**
25	0.06	0.03
30	0.08	0.03
35	0.08	0.04
40	0.10	0.07
45	0.15	0.09
50	0.23	0.13
55	0.40	0.21
60	0.71	0.39
65	1.29	0.76

All pre-retirement deaths are assumed to be duty.

Termination Rates Before Retirement (Continued):

Rate (%)

Disability

	Tier 1		Tier 2	
Age	**Duty**	**Non-Duty**	**Duty**	**Non-Duty**
20	0.09	0.00	0.30	0.00
25	0.28	0.01	0.42	0.01
30	0.31	0.01	0.60	0.01
35	0.70	0.03	0.84	0.03
40	0.95	0.12	1.22	0.12
45	1.25	0.25	1.76	0.25
50	2.50	0.20	1.71	0.20
55	7.00	0.00	2.53	0.00
60	0.00	0.00	0.00	0.00

Termination Rates Before Retirement (Continued):

	Rate (%)											
	Withdrawal (Refund of Contributions)											
	0-1 Yrs		1-2 Yrs		2-3 Yrs		3-4 Yrs		4-10 Yrs		10+ Yrs	
Age	**Tier1**	**Tier 2**	**Tier 1**	**Tier 2**	**Tier 1**	**Tier 2**	**Tier 1**	**Tier 2**	**Tier 1**	**Tier 2**	**Tier 1**	**Tier 2**
20	4.47	8.94	4.47	4.47	4.47	3.00	4.47	2.50	2.87	2.50	2.87	2.50
25	4.47	8.94	4.47	4.47	4.47	3.00	4.47	2.50	2.87	2.50	2.87	2.50
30	4.47	8.94	4.47	4.47	4.47	3.00	4.47	2.50	1.95	1.95	1.77	1.77
35	4.47	8.94	4.47	4.47	4.47	3.00	4.47	2.50	0.83	0.83	0.58	0.58
40	4.47	8.94	4.47	4.47	4.47	3.00	4.47	2.50	0.38	0.38	0.20	0.20
45	4.47	8.94	4.47	4.47	4.47	3.00	4.47	2.50	0.20	0.20	0.03	0.03
50	4.47	8.94	4.47	4.47	4.47	3.00	4.47	2.50	0.00	0.00	0.00	0.00
55	4.47	8.94	4.47	4.47	4.47	3.00	4.47	2.50	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Termination Rates Before Retirement (Continued):

Rate (%)

Vested Termination (Deferred Vested Benefit)

Age	Tier 1	Tier 2
20	0.70	0.70
25	0.70	0.70
30	0.70	0.70
35	0.70	0.70
40	0.70	0.60
45	0.60	0.35
50	0.00	0.00
55	0.00	0.00
60	0.00	0.00

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	14.28
54	5.09	16.74
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	100.00

DROP Assumptions:	**Tier 1**	**Tier 2**
First Year Eligible	100%	50%
Second Year Eligible	0%	25%
Third Year Eligible	0%	10%
Thereafter	0%	0%

Members are assumed to remain in DROP for 4 years

Retirement Age and Benefit for Deferred Vested Members	For current deferred vested members, the retirement assumption is age 50. It is assumed that 50% of future deferred vested members will continue to work for a reciprocal employer. For those that continue to work for a reciprocal employer, a 4.20% 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 4 years younger than their husbands.
Net Investment Return:	8.25%, net of administration and investment expenses.
Employee Contribution Crediting Rate:	8.25%, assumed in the valuation.
Consumer Price Index:	Increase of 4.00% per year, retiree COLA increases due to CPI are limited to maximum at 4.00% per year for Tier 1 and 3.00% for Tier 2.

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.75% per year plus 0.25% 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	6.00%
1-2	5.75%
2-3	5.50%
3-4	5.25%
4-5	5.25%

More than 5 years of service:

Age	Annual Increase
25-29	1.70%
30-34	1.30%
35-39	1.10%
40-44	0.50%
45-49	0.25%
50-54	0.15%
55+	0.00%

There is an additional 0.75% increase at the time of service retirement to reflect the average leave time cash outs for management employees.

To reflect the conversion of sick leave to increase final average salary at retirement for non-management Fire and Police members, we have increased the normal cost and actuarial accrued liability for all active members by 7.0% to anticipate the conversion.

Actuarial Value of Assets:	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.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of the non-valuation reserves.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Normal Cost and Actuarial Accrued Liability is calculated on an individual basis and is based on costs allocated as a level percentage of compensation. The Normal cost is calculated on an aggregate basis by taking the present value of Future Normal Costs divided by the Present Value of Future Salaries to obtain a Normal Cost Rate. This Normal Cost rate is then multiplied by the total current salaries.
Changes in Actuarial Assumptions:	Based on data provided by the System, the following assumption was changed. Previously, this assumption was as follows:
Salary Increases:	To reflect the conversion of sick leave to increase final average salary for non-management Fire members, we have increased the normal cost and actuarial accrued liability for all active members by 2.6% to anticipate the conversion.

EXHIBIT V

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 calculated using the rate of pay actually earned by the member in effect at the time 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 age 50:

Yrs before 50 (limited to 20) * 2.75% * FAS + Yrs after 50 (limited to 10) * 2.00% * FAS

If a member has less than 20 years of service at age 50:

Yrs (limited to 20) * 2.75% * FAS + Yrs of service in excess of 20 (limited to 10) * 2.00% * FAS

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:	
<u>Tier 1</u>	
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).
<u>Tier 2</u>	
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:	
<u>Tier 1</u>	
Eligibility	No age or service requirements (§3-335).
Benefit Formula	55% of FAS or Service Retirement benefit, if greater (§3-336).
<u>Tier 2</u>	
Eligibility	No age or service requirements (§3-412)
Benefit Formula	50% of FAS or Service Retirement benefit, if greater (§3-413).

Pre-Retirement Death:

<u>All Members</u>	
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 spouse/domestic partner or minor children (§3-330 and 3-408 for Tier 1 and Tier 2, respectively).
	OR
<u>Vested Members</u>	
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:	
<u>*All Members*</u>	
Service or Ordinary 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).
Line-of-Duty Disability	100% of member's 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% 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:	The amortization period for Prefunded Actuarial Accrued Liability is amortized over an open non-declining 15-year period.
Post Retirement Supplement Benefit (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 Contributions Rates

Comparison of member rates calculated in the June 30, 2007 and June 30, 2008 valuations:

	June 30, 2008 Actuarial Valuation		June 30, 2007 Actuarial Valuation	
	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Tier 1 Members	4.89%	$459	4.94%	$463
Tier 2 Members	9.00%	$7,110	9.00%	$7,110
All member categories Combined	8.56%	$7,569	8.57%	$7,573

** Amounts are in thousands and are based on the following projected fiscal year 2009 – 2010 annual payroll for members NOT in the DROP (also in thousands):*

	Excludes DROP Members
Tier 1	$ 9,382
Tier 2	78,995
Total	$88,377

Appendix A
Member Contribution Rates (Continued)

Tier 1 Members' Contribution Rates based on the June 30, 2008
Actuarial Valuation as a percentage of payroll

	Exact Age		¼ Age		½ Age		¾ Age	
Entry Age	Rate	Dependent Portion	Rate	Dependent Portion	Rate	Dependent Portion	Rate	Dependent Portion
20	3.76%	0.05261	3.81%	0.05261	3.85%	0.05261	3.90%	0.05261
21	3.95%	0.05261	4.00%	0.05261	4.05%	0.05261	4.10%	0.05261
22	4.15%	0.05261	4.21%	0.05261	4.26%	0.05261	4.32%	0.05261
23	4.37%	0.05261	4.43%	0.05261	4.49%	0.05261	4.55%	0.05261
24	4.61%	0.05261	4.68%	0.05261	4.75%	0.05261	4.81%	0.05261
25	4.88%	0.05261	4.95%	0.05261	5.02%	0.05261	5.09%	0.05261
26	5.17%	0.05261	5.25%	0.05261	5.33%	0.05261	5.41%	0.05261
27	5.49%	0.05261	5.57%	0.05261	5.66%	0.05261	5.75%	0.05261
28	5.83%	0.05261	5.93%	0.05261	6.03%	0.05261	6.12%	0.05261
29	6.22%	0.05261	6.33%	0.05261	6.43%	0.05261	6.54%	0.05261
30	6.65%	0.05261	6.63%	0.05343	6.61%	0.05426	6.59%	0.05508
31	6.58%	0.05591	6.56%	0.05678	6.54%	0.05765	6.52%	0.05852
32	6.51%	0.05940	6.49%	0.06031	6.47%	0.06123	6.45%	0.06215
33	6.43%	0.06307	6.42%	0.06403	6.40%	0.06499	6.38%	0.06595
34	6.36%	0.06691	6.34%	0.06792	6.33%	0.06893	6.31%	0.06994
35	6.29%	0.07095	6.27%	0.07202	6.26%	0.07308	6.24%	0.07414
36	6.23%	0.07520	6.21%	0.07632	6.20%	0.07743	6.18%	0.07855
37	6.16%	0.07966	6.15%	0.08083	6.13%	0.08199	6.11%	0.08316
38	6.09%	0.08432	6.07%	0.08553	6.06%	0.08674	6.04%	0.08795
39	6.02%	0.08916	6.00%	0.09041	5.98%	0.09165	5.96%	0.09290
40	5.94%	0.09415	5.98%	0.09415	6.01%	0.09415	6.05%	0.09415
41	6.08%	0.09415	6.12%	0.09415	6.15%	0.09415	6.19%	0.09415
42	6.22%	0.09415	6.26%	0.09415	6.30%	0.09415	6.33%	0.09415
43	6.37%	0.09415	6.41%	0.09415	6.44%	0.09415	6.48%	0.09415
44	6.52%	0.09415	6.56%	0.09415	6.60%	0.09415	6.64%	0.09415

Appendix A
Member Contribution Rates (Continued)

	Exact Age		¼ Age		½ Age		¾ Age	
Entry Age	Rate	Dependent Portion	Rate	Dependent Portion	Rate	Dependent Portion	Rate	Dependent Portion
45	6.67%	0.09415	6.72%	0.09415	6.76%	0.09415	6.80%	0.09415
46	6.84%	0.09415	6.88%	0.09415	6.92%	0.09415	6.97%	0.09415
47	7.01%	0.09415	7.05%	0.09415	7.10%	0.09415	7.14%	0.09415
48	7.19%	0.09415	7.24%	0.09415	7.28%	0.09415	7.33%	0.09415
49	7.38%	0.09415	7.43%	0.09415	7.48%	0.09415	7.53%	0.09415
50	7.58%	0.09415	7.63%	0.09415	7.69%	0.09415	7.75%	0.09415
51	7.80%	0.09415	7.86%	0.09415	7.92%	0.09415	7.99%	0.09415
52	8.05%	0.09415	8.08%	0.09415	8.12%	0.09415	8.16%	0.09415
53	8.19%	0.09415	8.21%	0.09415	8.22%	0.09415	8.23%	0.09415
54	8.25%	0.09415	8.24%	0.09415	8.23%	0.09415	8.22%	0.09415
55	8.21%	0.09415	8.20%	0.09415	8.19%	0.09415	8.18%	0.09415
56	8.17%	0.09415	8.15%	0.09415	8.14%	0.09415	8.12%	0.09415
57	8.11%	0.09415	8.19%	0.09415	8.26%	0.09415	8.34%	0.09415
58	8.42%	0.09415	8.50%	0.09415	8.59%	0.09415	8.67%	0.09415
59	8.75%	0.09415	8.75%	0.09415	8.75%	0.09415	8.75%	0.09415

Interest:	8.25%
Mortality:	GAM 94 set back one year weighted 90% Male and 10% Female for member
	GAM 94 set back one year weighted 10% Male and 90% Female for beneficiary
Salary Increase:	See Exhibit IV in Section 4.

Appendix B
Allocation of Actuarial Surplus

	June 30	
	2008	**2007**
Surplus as of Date of Valuation (Table 1)	$236,742,025	$227,725,593
Actuarial Surplus (Table 1)	153,738,443	150,402,033
Distributable Actuarial Surplus as of date of valuation (Table 2)	13,950,502	13,647,750
Allocation of Distributable Surplus as of Date of Valuation:		
City Allocation (Table 3)	9,300,335	9,098,500
PRSB Allocation (Table 3)	4,650,167	4,549,250
Total	$13,950,502	$13,647,750
Allocation of Projected Distributable Surplus as of Date of Next Valuation:		
City Allocation (Table 3)	$9,188,871	$8,989,456

The Allocation of Distributable Actuarial Surplus is sufficient to:

- Offset the City's contribution requirement for the 2009-2010 fiscal year from $20,863,723 to a net amount of $12,076,819 after consideration of contribution shortfall from prior fiscal year (see Table 4); and
- Provide a PRSB benefit of $466.19 per month over the 2009 calendar year (Table 5) under the current policy of 95% distribution.

Appendix B (continued)

Allocation of Actuarial Surplus

	June 30 2008	June 30 2007
Table 1: Calculation of Actuarial Surplus		
(1) Valuation Value of Assets	$1,066,777,845	$1,000,961,198
(2) Actuarial Accrued Liability	830,035,820	773,235,605
(3) Surplus: (1) – (2)	236,742,025	227,725,593
(4) Contingency Reserve: 10% of (2)	83,003,582	77,323,560
(5) Actuarial Surplus: (3) – (4)	153,738,443	150,402,033
Table 2: Determination of Distributable Actuarial Surplus		
(1) Actuarial Surplus (Table 1)	$153,738,443	$150,402,033
(2) Amortization of Balance of Actuarial Surplus:		
a. Amortization Period	15	15
b. Amortization Factor	0.090742	0.090742
c. Amortization of Balance of Actuarial Surplus (1) x (2b)	$13,950,502	$13,647,750
(3) Projected Surplus for Next Year 1.0825 x (1) – 1.04125 x (2c)	151,895,904	148,599,481
(4) Amortization of Balance of Projected Actuarial Surplus:		
a. Amortization Period	15	15
b. Amortization Factor	0.090742	0.090742
c. Amortization of Balance of Projected Actuarial Surplus (3) x (4b)	$13,783,307	$13,484,184

Appendix B (continued)

Allocation of Actuarial Surplus

	June 30	
	2008	**2007**
Table 3: Allocation of Distributable Actuarial Surplus:		
(1) Distributable Actuarial Surplus	$13,950,502	$13,647,750
(2) City Allocation: (1) x 2/3	9,300,335	9,098,500
(3) PRSB Allocation: (1) – (2)	4,650,167	4,549,250
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	13,783,307	13,484,184
(5) City Allocation (4) x 2/3	9,188,871	8,989,456
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 (continued)

Allocation of Actuarial Surplus

	Fiscal Year 2009-2010			Fiscal Year 2008-2009		
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total
Table 4: City Contribution Requirements:						
(1) City normal cost rate	26.38%	18.49%	20.28%	25.25%	17.34%	19.44%
(2) Projected Annual Payroll	$23,361,438	$79,507,712	$102,869,150	$22,462,921	$76,449,723	$98,912,644
(3) City Allocation of Distributable Actuarial Surplus	2,714,218	6,474,653	9,188,871	2,786,861	6,513,474	9,300,335
(4) City Surplus Reserve Account (From Prior Years)	0	0	0	0	0	0
(5) Total Contribution Offsets (3) + (4)	2,714,218	6,474,653	9,188,871	2,786,861	6,513,474	9,300,335
(6) Total Contribution Requirement (1) * (2)	6,162,747	14,700,976	20,863,723	5,671,888	13,256,382	18,928,269
(7) City Contribution Requirement Prior To Application of Prepaid Employer Contribution Account (6) – (5), not less than 0	3,448,529	8,226,323	11,674,852	2,885,027	6,742,908	9,627,935
(8) Contribution Rate Adopted by the City for Fiscal Year 2008-2009						7.32%
(9) Projected City Contributions Based on Rate Adopted by the City (8) * (2)				$1,644,286	$5,596,120	$7,240,406
(10) Net Additional City Contribution Before Application of Prepaid Employer Contribution Account (7) – (9)	3,448,529	8,226,323	11,674,852	1,240,741	1,146,788	2,387,529
(11) City's Prepaid Employer Contribution Account Balance (Negative Account Balance Represents Contribution Shortfall)			-386,043[(1)]			1,936,883
(12) ½ year interest on (11)			-15,924			79,896
(13) City's Fiscal Year Contribution After Application of Prepaid Employer Contribution Account (10) – (11) – (12), not less than 0	3,567,263	8,509,556	12,076,819	192,670	178,080	370,750
(14) Projected City Surplus Reserve Account for future years			0			0
(15) Projected Residual Prepaid Employer Contribution Account at Year End. (11) + (12) – (10) adjusted with ½ year interest (Negative Account Balance Represents Contribution Shortfall)			0			-386,043[(1)]

(1) *Projected contribution shortfall for fiscal year 2008-2009 is due to higher than expected payroll growth and that the sum of the allocated surplus and the balance in the prepaid contribution account would be insufficient to satisfy the City's contribution requirement for fiscal year 2008-2009.*

Appendix B (continued)

Allocation of Actuarial Surplus

	June 30			
	2008			2007
Table 5: Calculation of PRSB and PRSB Reserve Account:				
(1) PRSB Allocation of Distributable Actuarial Surplus	$4,650,167	$4,650,167	$4,650,167	$4,549,250
(2) Distribution percentage	95%*	80%**	75%**	95%
(3) Preliminary PRSB distribution: (1) x (2)	$4,417,659	$3,720,134	$3,487,626	$4,321,788
(4) Number of eligible participants (Retirees, Beneficiaries & DROP Participants)	938	938	938	935
(5) Preliminary Monthly PRSB Benefit: (3) / (4) / 12	$392.47	$330.50	$309.85	$385.19
(6) Monthly Retiree Medical Trust Premium for the calendar year that commences 6 months following the date of valuation	$824.00	$824.00	$824.00	$822.00
(7) Benefit Shortfall: (6) – (5)	$431.53	$493.50	$514.15	$436.81
(8) PRSB Reserve Account	$3,196,000	$3,196,000	$3,196,000	$2,226,000
(9) Estimated July 1 to December 31 PRSB Payments	$2,366,180	$2,366,180	$2,366,180	$1,830,655
(10) Net PRSB Reserve Account 6 months following the date of valuation	$829,820	$829,820	$829,820	$395,345
(11) Draw from PRSB Reserve Account (lesser of (10) / (4) /12 or (7))	$73.72	$73.72	$73.72	$35.24
(12) Final monthly PRSB Benefit for next calendar year: (5) + (11)	$466.19	$404.22	$383.57	$420.43
(13) Estimated PRSB Reserve Account at the end of the next calendar year: (1) + (10) – [(12) * (4) * 12]	$232,553	$930,087	$1,162,523	$227,370

Note: The actual, rather than projected June 30, 2009 surplus, will be used to determine the 2010 calendar year PRSB benefit.

* *This is under the Board's current distribution policy.*

** *These are alternatives requested by the Administrative Committee and following consultation with the Retirement System.*