City of Birmingham Retirement and Relief System

Actuarial Valuation and Review
as of July 1, 2009

SEGAL

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April 9, 2010

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

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2009. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2009 and analyzes the preceding year's experience.

The census information on which our calculations were based was prepared by the City and the financial information was provided by the City's Finance Department. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Deborah K. Brigham, FCA, ASA, MAAA, Enrolled Actuary.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board of Managers are reasonably related to the experience of and the expectations for the Plan.

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

Sincerely,

THE SEGAL COMPANY

By:

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

Deborah K. Brigham

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SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

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SECTION 4

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Purpose

This report has been prepared by The Segal Company to present a valuation of the City of Birmingham Retirement and Relief System as of July 1, 2009. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

> The benefit provisions of the Pension Plan, as administered by the Board of Managers;

> The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of July 1, 2009, provided by the City;

> The assets of the Plan as of June 30, 2009, provided by the City's Finance Department;

> Economic assumptions regarding future salary increases and investment earnings; and

> Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

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

> The recommended contribution for the upcoming year is $42,237,820, or 22.64% of payroll. This is an increase of 3.05% of pay over the 19.59% recommended amount last year. The increase is primarily due to experience losses from investments.

> City and employee contributions combined are 13.00% of payroll, producing an expected deficit of 9.64%. As shown in Exhibit V of Section 4, the remaining Net Pension Asset from excess contributions in prior years is $2,902,759 as of June 30, 2009. This amount is not sufficient to offset the funding deficit. **Therefore, if the total contributions remain at 13.00% of payroll, the System's funding obligation will <u>not</u> be met for the upcoming year.**

> The contribution rate includes a normal cost portion, for benefits allocated to the current year, and an amortization of the unfunded actuarial accrued liability. The Entry Age Normal Cost Method, which is used for the funding of this Plan, strives to maintain a level normal cost. This year's normal cost percentage is 14.87% as compared to 14.66% last year. The cost of funding ongoing benefits currently exceeds the statutory contribution level, before recognizing the cost for the amortized funding of the unfunded actuarial accrued liability.

> If contributions are not made at the recommended level, future requirements will continue to increase. Contribution projections will be provided to the Board of Trustees separately.

- The ARC shown in this report is 50% of the total recommended contribution. This presumes that the employees are responsible for an equal share of the cost of the Plan. If employee contribution rates are not increased from their current levels, the City is ultimately responsible for the funding of the Plan.
- The investment rate of return on an actuarial basis for the year ended June 30, 2009 was -1.06%. This return includes a write-down necessary to keep the actuarial value of assets within 20% of market value, as required under the smoothing method adopted by the City. Since the rate of return was less than the assumed rate of return of 7.00% per year, there was an actuarial investment loss amounting to $75,654,837. The return on market value basis was -11.09%.
- As stated above, the Plan's current asset valuation method requires that the actuarial value of assets be no more than 120% and no less than 80% of the market value of assets. Since the preliminary calculation of the actuarial value exceeded 120% of the market value of assets, the actuarial value of assets was set equal to 120% of the market value. Typically, when the asset value is impacted by the corridor, the actuarial asset smoothing method is less effective at smoothing, and the actuarial cost results may be more volatile.
- As indicated in Section 2, Subsection B of this report, the total unrecognized investment loss as of June 30, 2009 is $151,794,865. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment gains derived from future experience. This implies that earning the assumed rate of investment return of 7.00% per year (net of expenses) on a **market value** basis will result in investment losses on the actuarial value of assets in the next few years. Therefore, if the actual market return is equal to the assumed 7.00% rate and all other actuarial assumptions are met, the contribution requirements would still increase in each of the next few years. To illustrate the effect of the net unrecognized investment losses, if the current year's actuarial value were equal to the current market value of assets, the plan's recommended contribution would increase from $42,237,820 (22.64% of pay) to $54,094,662 (29.00% of pay).
- The GASB Schedule of Funding Progress, provided in Exhibit III of Section 4, shows that the funded ratio has declined from 90.70% as of July 1, 2008 to 84.08% as of July 1, 2009, due to the decline in assets. If the actuarial value of assets were equal to market value, the funded ratio would decrease from 84.08% to 70.06%.
- The administrative expense assumption was increased from $180,000 to $200,000 for the coming year. There have been no other assumption or plan changes since the prior valuation.
- The actuarial valuation report as of July 1, 2009 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected.
- The audited financial information received states all results rounded to the nearest thousand. The results in this valuation are shown to the dollar. Therefore, occasionally rounded numbers are combined with unrounded ones.

Summary of Key Valuation Results

	2009	2008
Contributions for plan year beginning July 1:		
Recommended	$42,237,820	$34,101,377
Recommended contribution as a percentage of payroll	22.64%	19.59%
Actual contributions (employer and employee)	--	25,203,129
Funding elements for plan year beginning July 1:		
Normal cost, including administrative expenses	$27,734,855	$25,521,788
Market value of assets	758,974,327	888,182,076
Actuarial value of assets	910,769,192	953,079,670
Actuarial accrued liability	1,083,256,135	1,050,785,799
Unfunded actuarial accrued liability	172,486,943	97,706,129
GASB 25/27 for plan year beginning July 1:		
Annual required employer contributions*	$21,118,910	$17,050,689
Actual employer contributions	--	12,770,110
Percentage contributed	--	74.89%
Funded ratio	84.08%	90.70%
Covered payroll	$186,523,480	$174,113,556
Demographic data for plan year beginning July 1:		
Number of retired participants and beneficiaries	2,516	2,464
Number of vested former participants**	211	205
Number of active participants	4,017	3,782
Total payroll	$186,523,480	$174,113,556
Average payroll	46,434	46,037

* *Presumes that the employees are responsible for an equal share of the cost of the Plan. If employee contribution rates are not increased, the City is ultimately responsible for the funding of the Plan.*

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

A. PARTICIPANT DATA

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

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

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

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

CHART 1

Participant Population: June 30, 2000 – June 30, 2009

Year Ended June 30	Active Participants	Vested Terminated Participants*	Retired Participants and Beneficiaries	Ratio of Non-Actives to Actives
2000	3,933	264	1,857	0.54
2001	4,081	244	1,906	0.53
2002	3,878	212	2,017	0.57
2003	3,867	196	2,095	0.59
2004	3,915	177	2,158	0.60
2005	3,802	231	2,239	0.65
2006	3,782	204	2,255	0.65
2007	3,760	211	2,352	0.68
2008	3,782	205	2,464	0.71
2009	4,017	211	2,516	0.68

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

Active Participants

Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 4,017 active participants with an average age of 44.5, average years of service of 11.6 years and average payroll of $46,434. The 3,782 active participants in the prior valuation had an average age of 44.7, average service of 12.2 years and average payroll of $46,037.

Inactive Participants

In this year's valuation, there were 211 participants with a vested right to a deferred or immediate vested benefit. This includes 183 possible future pensioners currently receiving benefits from the Firemen's and Policemen's Supplemental Pension System.

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

CHART 2

Distribution of Active Participants by Age as of June 30, 2009

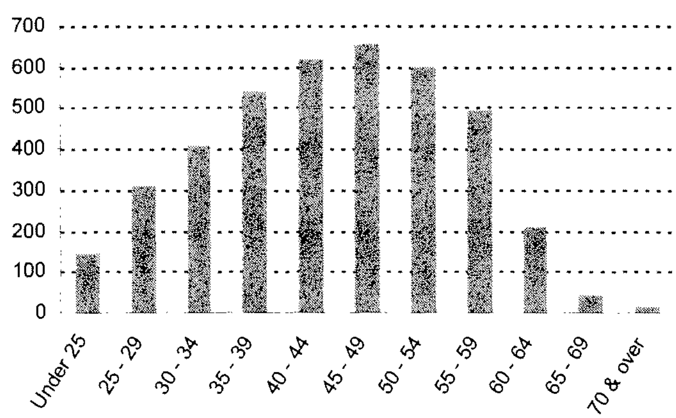
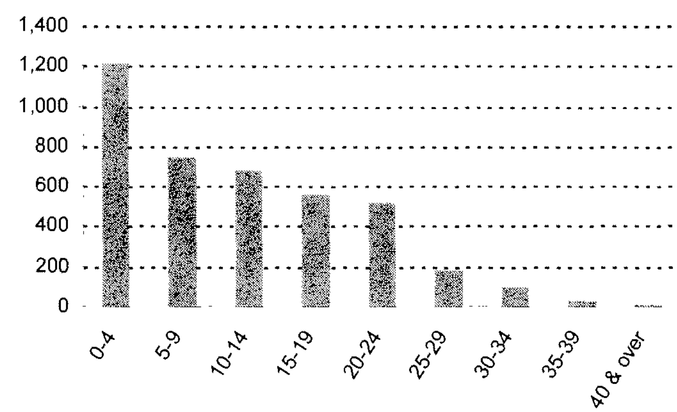


CHART 3

Distribution of Active Participants by Years of Service as of June 30, 2009



Retired Participants and Beneficiaries

As of June 30, 2009, 2,040 retired participants and 476 beneficiaries were receiving total monthly benefits of $4,519,036. For comparison, in the previous valuation, there were 2,006 retired participants and 458 beneficiaries receiving monthly benefits of $4,363,206.

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

CHART 4

Distribution of Retired Participants and Beneficiaries by Type and by Monthly Amount as of June 30, 2009

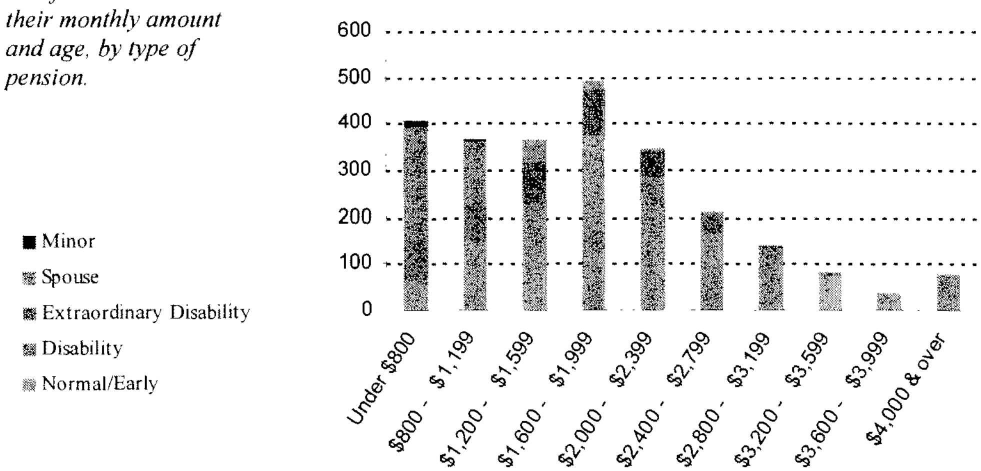
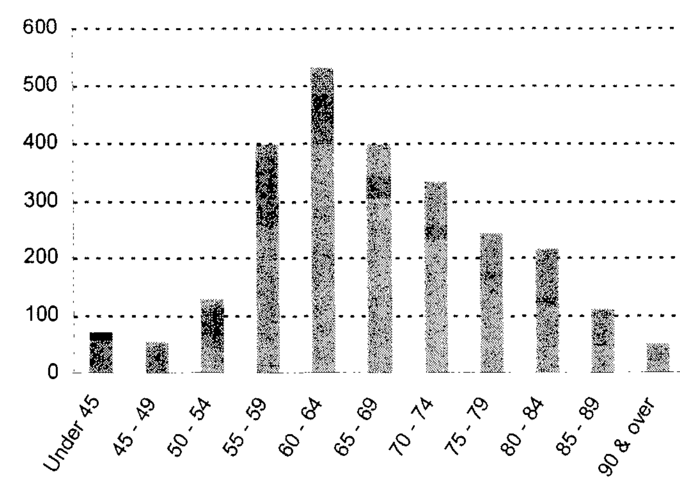


CHART 5

Distribution of Retired Participants and Beneficiaries by Type and by Age as of June 30, 2009



B. FINANCIAL INFORMATION

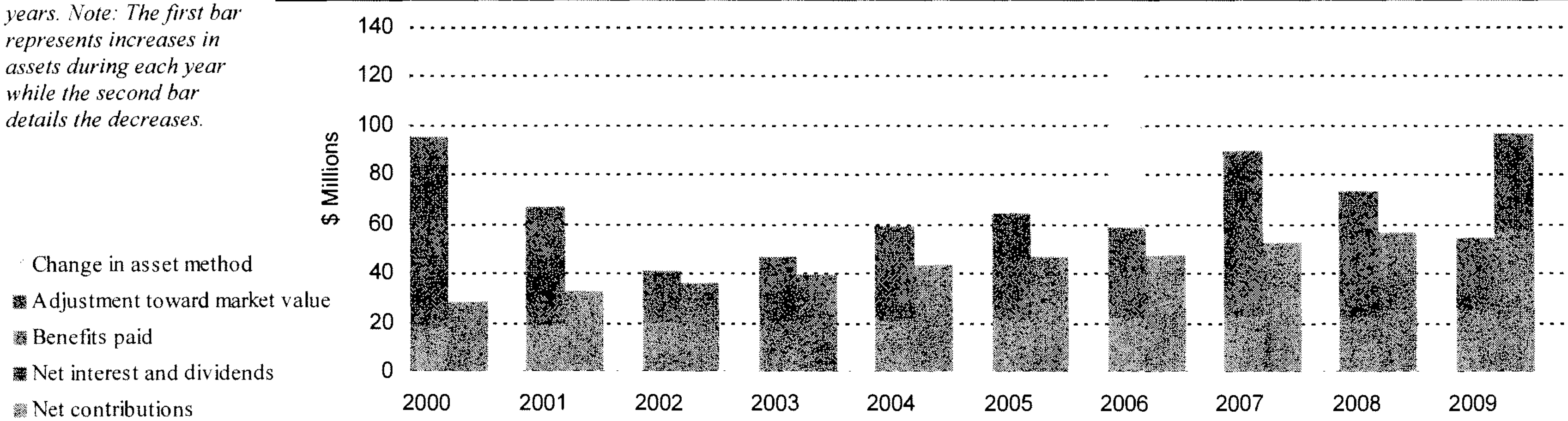
Retirement plan funding anticipates that, over the long term, both net contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

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

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

CHART 6

Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2000 – 2009



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

As shown below, the actuarial value of assets was adjusted downwards by $24,507,965 to bring it within the corridor of 80% to 120% around market value. As a result, a greater portion of the 2009 investment loss is recognized this year.

The chart shows the determination of the actuarial value of assets as of the valuation date. This is the fourth year of the current asset smoothing method. In 2006 the funding assets were reset to market value. This year three years of return are being smoothed in, with 20% recognized for funding each year. Ultimately there will be five bases for unrecognized return.

CHART 7

Determination of Actuarial Value of Assets for Year Ended June 30, 2009

	Original Amount	Unrecognized Amount**	
1. Market value of assets			$758,974,327
2. Calculation of unrecognized return*			
(a) Year ended June 30, 2009	-$158,009,276	-$126,407,421	
(b) Year ended June 30, 2008	-99,455,194	-59,673,116	
(c) Year ended June 30, 2007	24,444,268	9,777,707	
(d) Total unrecognized return			-176,302,830
3. Preliminary actuarial value: (1) - (2d)			935,277,157
4. Adjustment to be within 20% corridor			-24,507,965
5. Final actuarial value of assets: (3) + (4)			$910,769,192
6. Actuarial value as a percentage of market value: (5) ÷ (1)			120.0%
7. Amount deferred for future recognition: (1) – (5)			-$151,794,865

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

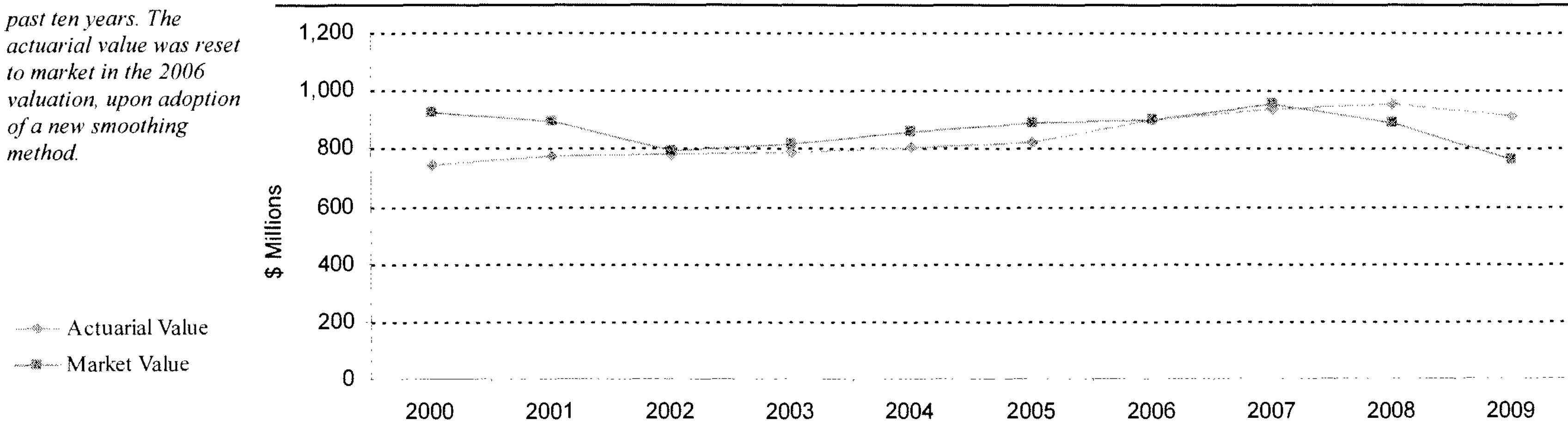
** *Recognition at 20% per year over five years*

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

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

CHART 8

Actuarial Value of Assets vs. Market Value of Assets as of June 30, 2000 – 2009



C. ACTUARIAL EXPERIENCE

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

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

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

The total loss is $66,644,803, including a loss of $75,654,837 from investments offset by a net gain of $9,010,034 from all other sources. The net experience variation from individual sources other than investments was 0.8% 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, 2009

1.	Net loss from investments*	-$75,654,837
2.	Net loss from administrative expenses	-67,329
3.	Net gain from other experience	9,077,363
4.	Net experience loss: (1) + (2) + (3)	-$66,644,803

* *Details in Chart 10*

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the System's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.00%. The actual rate of return on an actuarial basis for the 2008-2009 plan year was -1.06%.

Since the actual return for the year was less than the assumed return, the System experienced an actuarial loss during the year ended June 30, 2009 with regard to its investments.

This chart shows the calculation of the loss due to investment experience.

CHART 10

Actuarial Value Investment Experience for Year Ended June 30, 2009

1. Actual return	-$9,976,637
2. Average value of assets	938,259,993
3. Actual rate of return: (1) ÷ (2)	-1.06%
4. Assumed rate of return	7.00%
5. Expected return: (2) x (4)	$65,678,200
6. Actuarial loss: (1) – (5)	-$75,654,837

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

Based upon future expectations with the current investment allocation, we have maintained the assumed rate of return of 7.00%.

This chart shows a history and actuarial market value investment returns.

CHART 11

Investment Return – Actuarial Value vs. Market Value: 2000 - 2009

	Net Interest and Dividend Income		Recognition of Capital Appreciation		Change in Asset Method		Actuarial Value Investment Return		Market Value Investment Return	
Year Ended June 30	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
2000	$15,703,307	2.35%	$61,285,291	9.18%	--	--	$76,988,598	11.54%	$99,628,658	12.01%
2001	17,874,740	2.44	29,849,535	4.07	--	--	47,724,275	6.51	-17,602,046	-1.92
2002	18,574,794	2.42	2,263,863	0.30	--	--	20,838,657	2.72	-89,504,028	-10.11
2003	19,852,229	2.58	6,370,511	0.83	--	--	26,222,740	3.41	42,649,330	5.48
2004	23,403,588	3.02	14,220,308	1.83	--	--	37,623,896	4.85	69,023,086	8.61
2005	27,114,712	3.43	16,148,066	2.04	--	--	43,262,778	5.48	50,973,808	6.02
2006	19,901,991	2.46	17,031,771	2.11	$68,127,085	8.44%	105,060,847	13.01	40,468,583	4.64
2007	38,017,026	4.34	28,826,146	3.25	--	--	66,843,172	7.55	86,398,586	9.76
2008	30,863,174	3.35	19,934,937	2.17	--	--	50,798,111	5.52	-33,654,898	-3.58
2009	29,426,568	3.14	-39,403,205	-4.20	--	--	-9,976,637	-1.06	-96,873,908	-11.09
Total	$240,732,129		$156,527,223		$68,127,085		$465,386,437		$151,507,171	
							Five-year average return	5.90%		1.07%
							Ten-year average return	5.78%		1.76%

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

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

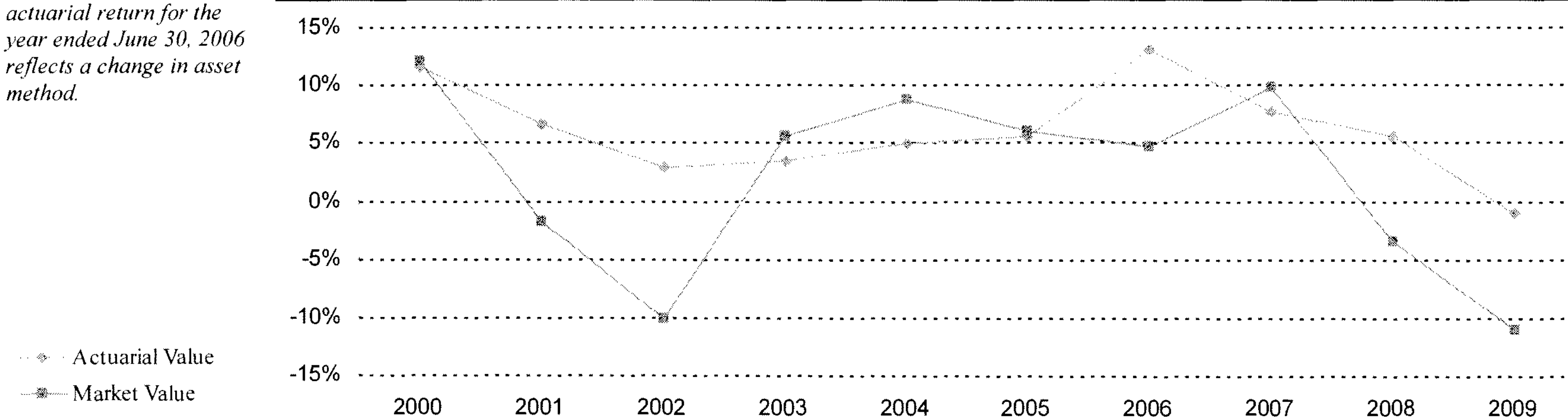
Administrative Expenses

Administrative expenses for the year ended June 30, 2009 totaled $245,261 compared to the assumption of $180,000. This resulted in a loss of $67,329 for the year. We have increased the assumption from $180,000 to $200,000 for the current year.

This chart illustrates how this leveling effect has actually worked over the years 2000 – 2009. The actuarial return for the year ended June 30, 2006 reflects a change in asset method.

CHART 12

Market and Actuarial Rates of Return for Years Ended June 30, 2000 - 2009



Other Experience

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

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

The net gain from this other experience for the year ended June 30, 2009 amounted to $9,077,363 which is 0.8% of the actuarial accrued liability. This gain was primarily due to fewer disabilities than expected, along with salary growth less than anticipated.

D. RECOMMENDED CONTRIBUTION

The amount of annual contribution required to fund the System is comprised of normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the total payroll for active members to determine the funding rate of 22.64% of payroll. The unfunded actuarial accrued liability is amortized on a level dollar basis over a rolling 30-year period.

Expected contributions for the year are $24,248,052 or 13.00% of payroll, which leaves a deficit of 9.64% of payroll. This year's normal cost percentage is 14.87%. Thus the cost of funding ongoing benefits currently exceeds the statutory contribution level, even before recognizing the cost for the amortized funding of the unfunded actuarial accrued liability. A higher contribution will be required to fund this plan on an ongoing basis.

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

CHART 13

Recommended Contribution

	Year Beginning July 1			
	2009		2008	
	Amount	% of Payroll	Amount	% of Payroll
1. Normal cost*	$27,542,015	14.77%	$25,348,232	14.56%
2. Administrative expenses	192,840	0.10%	173,556	0.10%
3. Total normal cost: (1) + (2)	$27,734,855	14.87%	$25,521,788	14.66%
4. Actuarial accrued liability	1,083,256,135		1,050,785,799	
5. Actuarial value of assets	910,769,192		953,079,670	
6. Unfunded actuarial accrued liability: (4) - (5)	$172,486,943		$97,706,129	
7. Payment on unfunded actuarial accrued liability	12,990,750	6.96%	7,358,678	4.23%
8. Total recommended contribution: (3) + (7), adjusted for timing**	$42,237,820	22.64%	$34,101,377	19.59%
9. Total payroll	$186,523,480		$174,113,556	

* *Including net obligations from the Supplemental System of -$1,613,894 for July 1, 2009 and -$1,376,874 for July 1, 2008 (-$1,673,800 and -$1,428,000 adjusted for timing).*

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

The contribution rates as of July 1, 2009 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

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

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

CHART 14

Reconciliation of Recommended Contribution from July 1, 2008 to July 1, 2009

Recommended Contribution as of July 1, 2008	$34,101,377
Effect of investment loss	$5,972,701
Effect of other gains and losses on accrued liability	-711,313
Effect of contributions less than recommended contribution	723,970
Effect of change in amortization period	-144,158
Effect of change in administrative expense assumption	20,000
Net effect of other changes	2,275,243
Total change	$8,136,443
Recommended Contribution as of July 1, 2009	$42,237,820

E. INFORMATION REQUIRED BY THE 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 contribution to the actual contributions. This comparison demonstrates whether a plan is being funded within the range of the GASB reporting requirements. Chart 15 below presents a graphical representation of this information for the System.

The other critical piece of information regarding the System'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 factors.

Although GASB requires that the actuarial value of assets be used to determine the funded ratio, Chart 16 shows the funded ratio calculated using both the actuarial value of assets and the market value of assets.

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

These graphs show key GASB factors.

CHART 15

Required Versus Actual Contributions

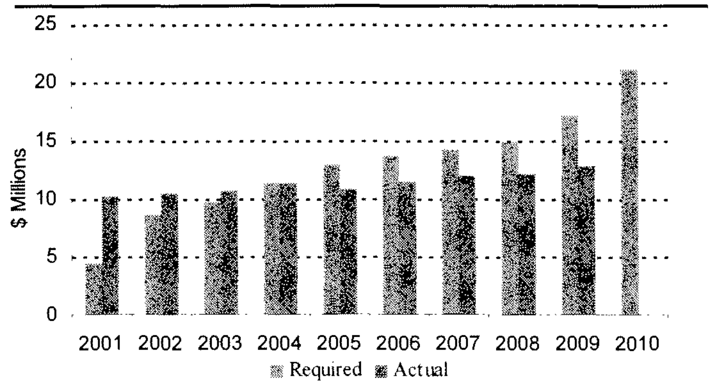


CHART 16

Funded Ratio

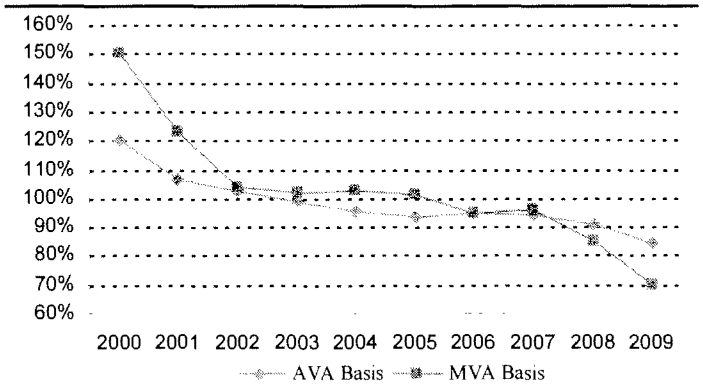


EXHIBIT A
Table of Plan Coverage

Category	Year Ended June 30 2009	Year Ended June 30 2008	Change From Prior Year
Active participants in valuation:			
Number	4,017	3,782	6.2%
Average age	44.5	44.7	N/A
Average service	11.6	12.2	N/A
Total payroll	$186,523,480	$174,113,556	7.1%
Average payroll	46,434	46,037	0.9%
Account balances	107,677,762	101,276,154	6.3%
Total active vested participants	2,804	2,775	1.0%
Vested terminated participants*	211	205	2.9%
Retired participants:			
Number in pay status	1,573	1,533	2.6%
Average age	68.0	67.6	N/A
Average monthly benefit	$2,147	$2,107	1.9%
Disabled participants:			
Number in pay status	467	473	-1.3%
Average age	57.8	57.2	N/A
Average monthly benefit	$1,565	$1,583	-1.1%
Beneficiaries in pay status	476	458	3.9%

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

EXHIBIT B

Participants in Active Service as of June 30, 2009
By Age, Years of Service, and Average Payroll

		Years of Service								
Age	**Total**	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 & over**
Under 25	143	142	1	- -	- -	- -	- -	- -	- -	- -
	$32,172	$32,063	$47,653	- -	- -	- -	- -	- -	- -	- -
25 - 29	309	251	56	2	- -	- -	- -	- -	- -	- -
	35,691	34,707	40,096	$35,920	- -	- -	- -	- -	- -	- -
30 - 34	405	222	126	57	- -	- -	- -	- -	- -	- -
	38,533	34,166	42,425	46,940	- -	- -	- -	- -	- -	- -
35 - 39	540	166	145	173	55	1	- -	- -	- -	- -
	45,936	36,340	45,564	53,183	$52,681	$67,959	- -	- -	- -	- -
40 - 44	615	124	137	163	146	45	- -	- -	- -	- -
	47,342	35,845	43,692	50,219	55,531	53,147	- -	- -	- -	- -
45 - 49	656	110	95	111	152	169	19	- -	- -	- -
	49,713	38,354	42,431	49,250	53,571	56,510	$63,275	- -	- -	- -
50 - 54	599	92	93	85	104	135	65	24	1	- -
	48,589	37,839	43,004	45,627	51,641	51,849	63,382	$49,962	$56,466	- -
55 - 59	492	67	55	61	60	111	68	55	15	- -
	52,234	48,063	42,791	48,241	48,779	51,219	59,714	64,599	63,800	- -
60 - 64	205	31	22	17	31	46	27	14	15	2
	55,494	44,893	50,115	46,061	49,693	52,523	62,260	86,778	76,894	$46,586
65 - 69	41	8	7	6	4	7	3	2	- -	4
	48,225	29,053	40,901	50,689	72,607	50,759	51,744	45,910	- -	65,389
70 & over	12	- -	2	3	1	2	1	1	1	1
	49,883	- -	50,709	44,857	83,418	33,983	40,491	33,544	62,040	75,144
Total	4,017	1,213	739	678	553	516	183	96	32	7
	$46,434	$36,167	$43,444	$49,621	$53,091	$53,361	$61,527	$63,461	$69,654	$61,410

EXHIBIT C

Reconciliation of Participant Data

	Active Participants	Vested Former Participants	Fire and Police Retirees	Retired Participants	Disabled Participants	Beneficiaries	Total
Number as of July 1, 2008	3,782	31	174	1,533	473	458	6,451
New participants	398	N/A	0	N/A	N/A	N/A	398
Terminations – with vested rights	-1	1	0	0	0	0	0
Terminations – without vested rights	0	N/A	0	N/A	N/A	N/A	0
Retirements	-87	-2	23	66	N/A	N/A	0
New disabilities	-12	0	0	N/A	12	N/A	0
Return to work	22	0	0	0	-2	N/A	20
Deaths	-5	-2	0	-42	-15	-27	-91
New beneficiaries	0	0	0	0	0	45	45
Lump sum payoffs	-79	-1	0	0	0	0	-80
Rehired	0	0	0	0	0	N/A	0
Certain period expired	N/A	N/A	0	0	0	0	0
Data adjustments	-1	1	0	2	-1	0	1
Retirees transferring from supplemental plan	0	0	-14	14	0	0	0
Number as of July 1, 2009	4,017	28	183	1,573	467	476	6,744

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2009		Year Ended June 30, 2008	
Contribution income:				
Employer contributions	$12,770,110		$12,061,584	
Employee contributions	12,433,019		10,604,722	
Less administrative expenses	-245,261		-183,375	
Net contribution income		$24,957,868		$22,482,931
Other income		11,000		1,000
Investment income:				
Interest, dividends and securities lending	$31,635,827		$34,317,319	
Recognition of capital appreciation	-39,403,205		19,934,936	
Less investment fees	-2,209,259		-3,454,145	
Net investment income		-9,976,637		50,798,110
Total income available for benefits		$14,992,231		$73,282,041
Less benefit payments:				
Benefits	-$56,716,794		-$54,776,604	
Refunds	-585,915		-1,246,861	
Net benefit payments		-$57,302,709		-$56,023,465
Change in reserve for future benefits		-$42,310,478		$17,258,576

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

EXHIBIT E
Table of Financial Information

	Year Ended June 30, 2009		Year Ended June 30, 2008	
Cash equivalents		-$26,502,132		$8,850,733
Accounts receivable:				
Employee loans	$10,528,959		$10,335,702	
Accrued interest and dividends	4,472,173		5,827,619	
Employee contributions	34,470		246,182	
Other funds	0		245,197	
Total accounts receivable		15,035,602		16,654,700
Investments:				
Debt securities	$392,507,283		$413,655,566	
Corporate stock	378,409,253		449,864,004	
Total investments at market value		770,916,536		863,519,570
Total assets		$759,450,006		$889,025,003
Less accounts payable		-$475,679		-$842,927
Net assets at market value		$758,974,327		$888,182,076
Net assets at actuarial value		$910,769,192		$953,079,670

EXHIBIT F

Development of the Fund Through June 30, 2009

Year Ended June 30	Employer Contributions	Employee Contributions	Other Income	Net Investment Return*	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
2000	$9,784,949	$8,542,670	$23,380,200**	$76,988,598	$46,100	$28,310,977	$738,897,840
2001	10,151,206	8,999,970	26,000	47,724,275	102,900	32,242,930	773,453,461
2002	10,537,461	9,521,128	31,000	20,838,657	92,000	35,684,461	778,605,246
2003	10,697,621	9,845,626	59,000	26,222,740	105,000	39,678,777	785,646,456
2004	11,347,715	10,373,268	24,000	37,623,896	292,000	43,111,069	801,612,266
2005	10,881,632	10,210,996	79,000	43,262,778	211,000	46,668,936	819,166,736
2006	11,398,732	10,522,586	36,000	105,060,847***	160,000	47,353,888	898,671,013
2007	12,006,508	10,707,106	16,000	66,843,172	180,000	52,242,705	935,821,094
2008	12,061,584	10,604,722	1,000	50,798,110	183,375	56,023,465	953,079,670
2009	12,770,110	12,433,019	11,000	-9,976,637	245,261	57,302,709	910,769,192

* *Net of investment fees.*
** *Includes $23,338,200 transferred from Library Board Employees' System.*
*** *Includes effect of change in asset method.*

EXHIBIT G

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2009

1. Unfunded actuarial accrued liability at beginning of year		$97,706,129
2. Normal cost at beginning of year		25,521,788
3. Total contributions		-25,203,129
4. Interest		
(a) For whole year on (1) + (2)	$8,625,953	
(b) Monthly on (3)	-808,601	
(c) Total interest		7,817,352
5. Expected unfunded actuarial accrued liability		$105,842,140
6. Change due to experience loss		66,644,803
7. Unfunded actuarial accrued liability at end of year		$172,486,943

EXHIBIT H
Definitions of Pension Terms

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

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

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

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

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

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

Amortization of the Unfunded Actuarial Accrued Liability:	Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

EXHIBIT I

Comparative Summary of Principal Valuation Results

	Year Ended June 30, 2009	Year Ended June 30, 2008
Participant data		
Active members	4,017	3,782
Total annual payroll	$186,523,480	$174,113,556
Retired members and beneficiaries	2,516	2,464
Total annualized benefit	$54,228,439	$52,358,458
Terminated vested members	28	31
Total annualized benefit	$458,665	$462,375
Future pensioners currently receiving benefits from Supplemental System	183	174
Total annualized benefit	$6,698,832	$6,440,584
Actuarial value of assets	$910,769,192	$953,079,670
Actuarial accrued liability:		
Active members	$486,565,781	$471,207,612
Terminated vested members	4,115,515	3,943,942
Retired members and beneficiaries	540,061,825	524,623,573
Future pensioners currently receiving benefits from Supplemental System	52,513,014	51,010,672
Total	$1,083,256,135	$1,050,785,799
Unfunded actuarial accrued liability	$172,486,943	$97,706,129

EXHIBIT I

Summary of Actuarial Valuation Results as of July 1, 2009

The valuation was made with respect to the following data supplied to us:			
1.	Retired participants as of the valuation date (including 476 beneficiaries in pay status)		2,516
2.	Participants inactive during year ended June 30, 2009 with vested rights (including 183 future pensioners currently receiving benefits from the Supplemental System)		211
3.	Participants active during the year ended June 30, 2009		4,017
	Fully vested	2,804	
	Not vested	1,213	
The actuarial factors as of the valuation date are as follows:			
1.	Normal cost, including administrative expenses		$27,734,855
2.	Actuarial accrued liability		1,083,256,135
	Retired participants and beneficiaries	$540,061,825	
	Inactive participants with vested rights	56,628,529	
	Active participants	486,565,781	
3.	Actuarial value of assets ($758,974,327 at market value as reported by the City)		910,769,192
4.	Unfunded actuarial accrued liability		$172,486,943
The determination of the recommended contribution is as follows:			
1.	Normal cost		$27,542,015
2.	Administrative expenses		192,840
3.	Total normal cost: (1) + (2)		$27,734,855
4.	Payment on unfunded actuarial accrued liability		12,990,750
5.	Total recommended contribution: (3) + (4), adjusted for timing		$42,237,820
6.	Total payroll		$186,523,480
7.	Total recommended contribution as a percentage of total payroll: (5) ÷ (6)		22.64%

EXHIBIT II

Supplementary Information Required by the GASB – Schedule of Employer Contributions

Plan Year Ended June 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2004	$11,290,871	$11,347,715	100.5%
2005	12,875,198	10,881,632	84.5%
2006	13,742,543	11,398,732	82.9%
2007	14,173,353	12,006,508	84.7%
2008	14,818,900	12,061,584	81.4%
2009	17,050,689	12,770,110	74.9%
2010	21,118,910	--	--

EXHIBIT III

Supplementary Information Required by the GASB – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll* [(b) - (a)] / (c)
07/01/2004	$801,612,266	$838,485,603	$36,873,337	95.60%	$158,062,119	23.33%
07/01/2005	819,166,736	875,792,038	56,625,302	93.53%	158,898,488	35.64%
07/01/2006	898,671,013	946,584,547	47,913,534	94.94%	162,849,137	29.42%
07/01/2007	935,821,094	992,864,448	57,043,354	94.25%	167,807,596	33.99%
07/01/2008	953,079,670	1,050,785,799	97,706,129	90.70%	174,113,556	56.12%
07/01/2009	910,769,192	1,083,256,135	172,486,943	84.08%	186,523,480	92.47%

* *Not less than zero*

EXHIBIT IV

Supplementary Information Required by the GASB

Valuation date	July 1, 2009
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level dollar
Remaining amortization period	Rolling, 30 years
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
Actuarial assumptions:	
Investment rate of return	7.00%
Projected salary increases:	
Inflation	3.50%
Merit, longevity, etc.	Varies from 0.00% to 6.00%
Plan membership:	
Retired participants and beneficiaries receiving benefits	2,516
Terminated participants entitled to, but not yet receiving benefits*	211
Active participants	4,017
Total	6,744

* *Includes 183 future pensioners currently receiving benefits from the Supplemental System.*

EXHIBIT V

Development of the Net Pension Obligation and the Annual Pension Cost Pursuant to GASB 27

Plan Year Ended June 30	Employer Annual Required Contribution (a)	Employer Amount Contributed (b)	Interest on NPO (h)* 7.00% (c)	ARC Adjustment (h) / (e) (d)	Amortization Factor (e)	Pension Cost (a) + (c) – (d) (f)	Change in NPO (f) – (b) (g)	NPO Balance NPO + (g) (h)
2004	$11,290,871	$11,347,715	-$1,350,951	-$2,089,340	8.6212	$12,029,259	$681,544	-$17,331,137
2005	12,875,198	10,881,632	-1,299,835	-2,035,605	8.5140	13,610,968	2,729,336	-14,601,802
2006	13,742,543	11,398,732	-1,095,135	-1,150,095	12.6962	13,797,503	2,398,771	-12,203,031
2007	14,173,353	12,006,508	-915,227	-919,064	13.2777	14,177,190	2,170,682	-10,032,349
2008	14,818,900	12,061,584	-702,264	-755,580	13.2777	14,872,216	2,810,632	-7,221,717
2009	17,050,689	12,770,110	-505,520	-543,899	13.2777	17,089,068	4,318,958	-2,902,759

* *Interest was 7.50% prior to the year ended June 30, 2007.*

EXHIBIT VI
Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

Healthy:	1983 Group Annuity Mortality Table
Disabled:	Healthy table set forward 10 years

Termination Rates Before Retirement:

	Rate (%)						
	Mortality		Disability		Withdrawal		
Age	Male	Female	General	Fire & Police	General*	Fire**	Police***
20	0.04	0.02	0.09	0.18	6.53	2.52	4.58
25	0.05	0.03	0.13	0.26	6.35	1.80	3.26
30	0.06	0.03	0.17	0.33	6.08	1.38	2.51
35	0.09	0.05	0.22	0.44	5.64	1.06	1.93
40	0.12	0.07	0.33	0.66	5.03	0.80	1.45
45	0.22	0.10	0.54	1.08	4.24	0.54	0.99
50	0.39	0.16	0.91	1.82	2.97	2.27	2.48
55	0.61	0.25	1.51	3.03	1.13	5.00	5.00
60	0.92	0.42	2.44	4.88	0.00	0.00	0.00

* *Withdrawal rates shown for general employees are multiplied by 1.25 and have 0.015 added during the first five years of employment.*

** *Withdrawal rates shown for firemen are multiplied by 3.8181 during the first five years of employment, further adjusted for individuals hired after age 49 by adding the applicable age related rate as shown in the table below.*

*** *Withdrawal rates shown for policemen are multiplied by 3.0 during the first five years of employment, further adjusted for individuals hired after age 49 by adding the applicable age related rate as shown in the table below.*

Age at Hire	Rate
50-51	2.0%
52-54	4.0%
55-56	5.0%
57-59	10.0%

Retirement Rates:

Fire and Police employees are assumed to retire on a Retirement and Relief pension in accordance with the following rates:

Fire		Police	
Years of Service	Rate	Years of Service	Rate
20	10%	20	33%
21-22	5	21	15
23-24	10	22	10
25	15	23-24	6
26-27	8	25	10
28	20	26	15
29	25	27	30
30-31	5	28	25
32	25	29	45
33	50	30	0
34	25	31	5
35	100	32	15
		33	20
		34	40
		35	100

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

Age	Rate*
Under 50	0%
50-51	35
52-54	10
55	20
56-59	10
60	5
61-66	20
67-74	25
Over 74	100

* Rates are decreased by 75% when employee has 31-32 years of service. Rates are increased to 1.5 times the rate shown when employee reaches 33 years of service.

Retirement Age for Inactive Vested Participants: 60

Unknown Data for Participants: Same as those exhibited by Participants with similar known characteristics. If not specified, Participants are assumed to be male.

Percent Married: 1972 Social Security Awards

Age of Spouse: Females 3 years younger than males

On the Job Disability:

General	30%
Fire and Police	90%

On the Job Death:

General	5%
Fire and Police	15%

Net Investment Return: 7.00%

Salary Scale:

	Annual increase Rate (%)	
Age	General	Fire and Police
20	7.50	9.50
25	6.75	7.60
30	6.00	6.20
35	5.50	5.10
40	5.00	4.50
45	4.50	4.00
50	4.25	4.00
55	4.00	4.00

Includes allowance for inflation of 3.50% per year.

Administrative Expenses: $200,000, payable monthly, equivalent to $192,840 at the beginning of the year.

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

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

Change in Assumptions: The administrative expense assumption was changed from $180,000 to $200,000.

EXHIBIT VII
Summary of Plan Provisions

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

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

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

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

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

Back-DROP:	An employee with 33 years of service or who is at least age 63 with 23 years of service may elect up to a 36-month Back-DROP. The employee's monthly benefit will be calculated using service and final average salary as of the Back-DROP date and the employee will receive a lump sum equal to the number of months dropped back times the retirement benefit, accumulated with interest.
Participation:	All qualified employees of the Retirement and Relief System are required to participate.
Contributions:	The City and the City employees each contribute 6.50% of compensation for the year.
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation.

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