City of Birmingham
Retirement and Relief System

Actuarial Valuation and Review as of
July 1, 2011

SEGAL

SEGAL

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June 1, 2012

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

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2011. It summarizes the actuarial data used in the valuation, establishes the funding requirements for the 2011-2012 fiscal year 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, EA, Enrolled Actuary. Ms. Brigham meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

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.

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

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.

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

Deborah K. Brigham

Deborah K. Brigham, FCA, ASA, MAAA, EA
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SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

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, 2011. 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 June 30, 2011, provided by the City;
- The assets of the Plan as of June 30, 2011, provided by the City's Finance Department;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

The assumptions and methods used to value the Plan were approved by the Pension Board based on the five-year experience study for the period ended June 30, 2010.

Significant Issues in Valuation Year

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

1. The recommended contribution for the upcoming year is $37,809,335, or 21.24% of payroll. This is an increase of 2.46% of pay from the 18.78% recommended amount last year. The increase is primarily due to experience losses, both from investments and from the voluntary retirement incentive program (VRIP) that was implemented in the last quarter of 2010. There were 159 employees who took advantage of the retirement incentive, and the total payroll for participants in the System declined by nearly 8%.
2. The City is expected to continue to contribute 6.50% of pay, and members are expected to contribute 6.50%. **City and employee contributions combined are thus 13.00% of payroll, producing an expected deficit of 8.24% when compared to the recommended contribution of 21.24%.** It is presumed throughout this report that the employees are responsible for an equal share of the cost of the Plan. However, the City is ultimately responsible for Plan funding. If employee contributions remain at their current level, the City's share is 14.74% of pay.

3. The calculated rate of 21.24% is based on a 30-year level percent-of-pay amortization of the unfunded actuarial accrued liability. The normal cost, for benefits allocated to the current year, is 12.28% of pay, less than the 13.00% statutory contribution rate. However, the unfunded liability is not being amortized by the remaining 0.72% of pay. To be in compliance with GASB standards, contributions should be at a level sufficient to amortize the unfunded liability in 30 years or less. Please note that in the summer of 2012, the GASB is scheduled to release new accounting standards for governmental plans. These new standards are anticipated to completely change plan disclosure requirements
4. As shown in Exhibit V of Section 4, the Net Pension Obligation is $9,457,756 as of June 30, 2011. This is the second year the System has had a Net Pension Obligation rather than a Net Pension Asset. The Net Pension Obligation was $5,006,770 in the prior valuation. The balance increased by $4,450,986 due to employer contributions less than the recommended contribution.
5. The investment rate of return on an actuarial basis for the year ended June 30, 2011 was 3.69%. Since the rate of return was less than the assumed rate of 7.00% per year, there was an actuarial investment loss amounting to $29,379,526. The return on market value basis was 18.06%. As of the valuation date, the smoothed actuarial value of assets is equal to 99.2% of market value.
6. The GASB Schedule of Funding Progress, provided in Exhibit III of Section 4, shows that the funded ratio has declined from 82.01% as of July 1, 2010 to 77.03% as of July 1, 2011.
7. The administrative expense assumption was increased from $250,000 to $270,000 for the coming year. There have been no other assumption on plan changes since the prior valuation.
8. The actuarial valuation report as of July 1, 2011 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Unfavorable asset experience will increase the actuarial cost of the Plan, while favorable experience will decrease the actuarial cost of the Plan. For example, a 10% change in the current year's actuarial value of assets would produce a $5,077,935 change in the recommended contribution level. Because the actuarial value of assets involves a smoothing method, a 10% change in market value would not be fully reflected immediately in the actuarial value of assets. Rather, that effect would be spread over a period of years. We have shown the full impact immediately so as to indicate the sensitivity of costs to market fluctuations.
9. 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

	2011	2010
Contributions for plan year beginning July 1:		
Recommended contribution	$37,809,335	$36,295,581
Recommended contribution as a percentage of payroll	21.24%	18.78%
Actual contributions (employer and employee)	--	25,653,886
Funding elements for plan year beginning July 1:		
Normal cost, including administrative expenses	$21,858,098	$23,999,465
Market value of assets	899,471,222	811,198,139
Actuarial value of assets	892,096,375	913,077,824
Actuarial accrued liability	1,158,070,396	1,113,441,433
Unfunded actuarial accrued liability	265,974,021	200,363,609
GASB 25/27 for plan year beginning July 1:		
Annual required employer contributions (ARC)*	$18,904,668	$18,147,791
Actual employer contributions	--	13,772,490
Percentage of ARC contributed	--	75.89%
Funded ratio	77.03%	82.01%
Covered payroll	$177,977,161	$193,229,880
Demographic data for plan year beginning July 1:		
Number of retired participants and beneficiaries	2,803	2,555
Number of vested former participants**	246	232
Number of active participants	3,807	4,073
Total payroll	$177,977,161	$193,229,880
Average payroll	46,750	47,442

* *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.

A voluntary retirement incentive that was offered to employees in the last quarter of 2010 resulted in a higher number of retirees than was anticipated by the actuarial assumptions. The ratio of non-actives to actives has climbed from 0.68 to 0.80.

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, 2002 - June 30, 2011

Year Ended June 30	Active Participants	Vested Terminated Participants*	Retired Participants and Beneficiaries	Ratio of Non-Actives to Actives
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
2010	4,073	232	2,555	0.68
2011	3,807	246	2,803	0.80

**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 3,807 active participants with an average age of 44.2, average years of service of 11.6 years and average payroll of $46,750. The 4,073 active participants in the prior valuation had an average age of 44.7, average service of 11.9 years and average payroll of $47,442.

Inactive Participants

In this year's valuation, there were 246 participants with a vested right to a deferred or immediate vested benefit. This includes 222 individuals 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, 2011

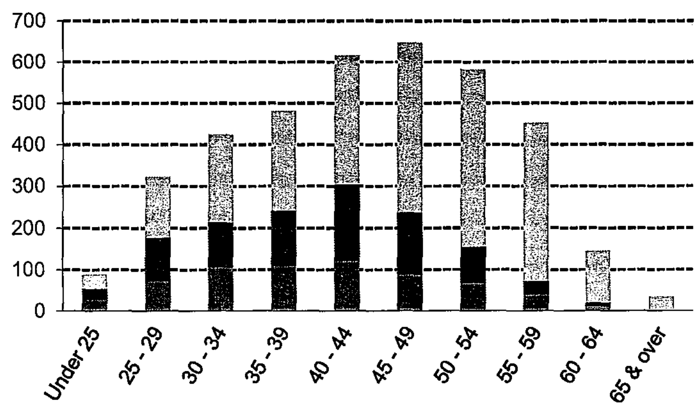
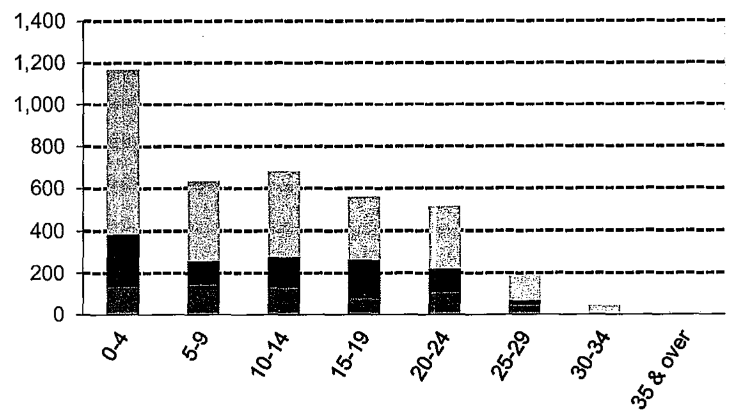


CHART 3

Distribution of Active Participants by Years of Service as of June 30, 2011



◻ General
■ Police
■ Fire

Retired Participants and Beneficiaries

As of June 29, 2011, 2,318 retired participants and 485 beneficiaries were receiving total monthly benefits of $5,383,837. For comparison, in the previous valuation, there were 2,071 retired participants and 484 beneficiaries receiving monthly benefits of $4,669,598.

Charts 4 and five have been updated since prior years, to indicate those who have retired under the voluntary retirement incentive program (VRIP) and/or the deferred retirement option program (DROP).

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, 2011

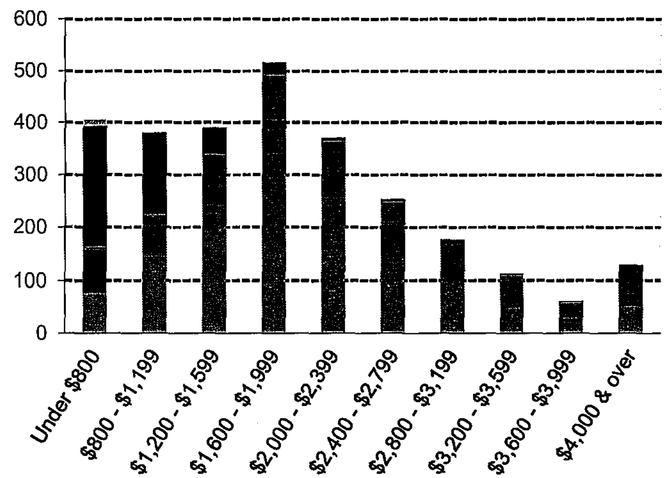
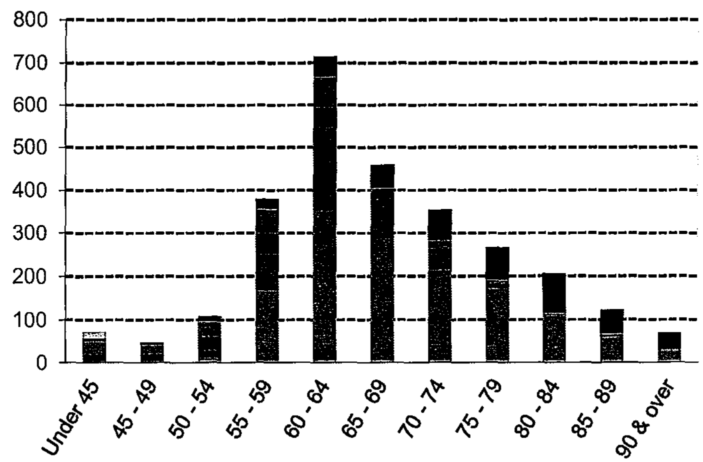


CHART 5

Distribution of Retired Participants and Beneficiaries by Type and by Age as of June 30, 2011



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

B. FINANCIAL INFORMATION

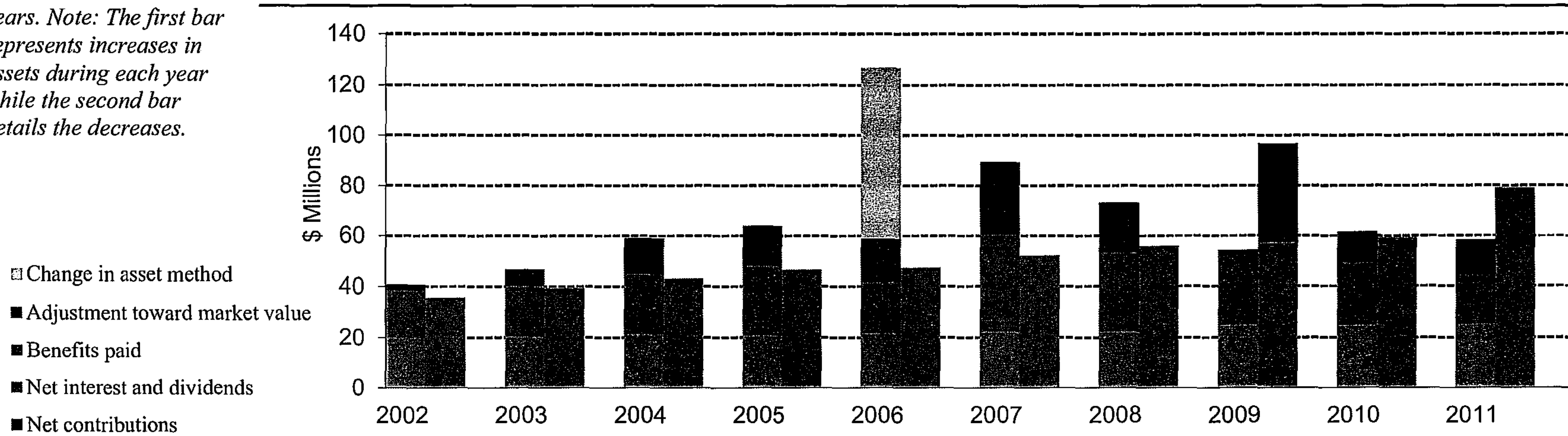
Retirement plan funding anticipates that, over the long term, both net contributions (less administrative expenses) and net investment earnings (less investment fees) will be needed to cover benefit payments.

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, 2002 – 2011



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.

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

CHART 7

Determination of Actuarial Value of Assets for Year Ended June 30, 2011

1. Market value of assets, June 30, 2011			$899,471,222
2. Calculation of unrecognized return	Original Amount*	Unrecognized Return**	
(a) Year ended June 30, 2011	$87,006,584	$69,605,267	
(b) Year ended June 30, 2010	34,773,881	20,864,329	
(c) Year ended June 30, 2009	-158,009,276	-63,203,710	
(d) Year ended June 30, 2008	-99,455,194	-19,891,039	
(e) Year ended June 30, 2007	24,444,268	0	
(f) Total unrecognized return			7,374,847
3. Preliminary actuarial value: (1) - (2f)			892,096,375
4. Adjustment to be within 20% corridor			0
5. Final actuarial value of assets as of June 30, 2011: (3) + (4)			$892,096,375
6. Actuarial value as a percentage of market value: (5) ÷ (1)			99.2%
7. Amount deferred for future recognition: (1) - (5)			$7,374,847

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

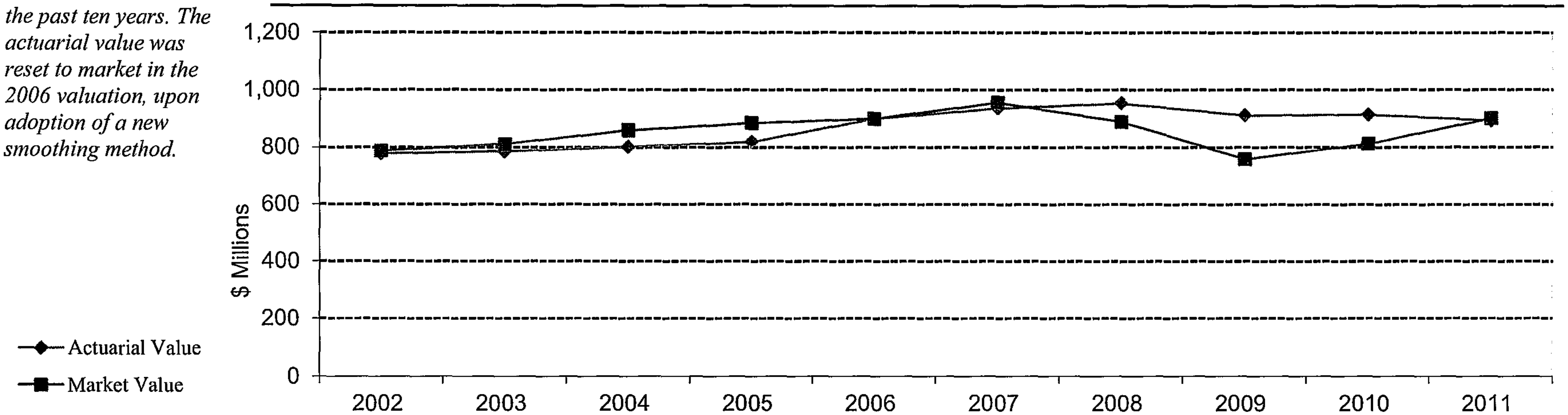
***Recognition at 20% per year over five years*

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, 2002 – 2011



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 $52,382,479, including losses of $29,379,526 from investments and $23,002,953 from all other sources. The net experience variation from individual sources other than investments was 2.0% 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, 2011

1.	Net loss from investments*	-$29,379,526
2.	Net loss from administrative expenses	-24,572
3.	Net loss from other experience	-22,978,381
4.	Net experience loss: (1) + (2) + (3)	-$52,382,479

* *Details in Chart 7*

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 2010-2011 plan year was 3.69%.

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, 2011 with regard to its investments.

This chart shows the loss due to investment experience.

CHART 10

Actuarial Value Investment Experience for Year Ended June 30, 2011

1.	Actual return	$32,810,110
2.	Average value of assets	888,423,360
3.	Actual rate of return: (1) ÷ (2)	3.69%
4.	Assumed rate of return	7.00%
5.	Expected return: (2) x (4)	$62,189,636
6.	Actuarial loss: (1) – (5)	-$29,379,526

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.

We have maintained the assumed rate of return of 7.00%. However, the investment allocation has recently been changed to provide greater diversification of assets, and we will monitor the Plan's experience to determine if a higher assumed rate of return is warranted.

CHART 71

Investment Return – Actuarial Value vs. Market Value: 2002 - 2011

Year Ended June 30	Net Interest and Dividend Income		Recognition of Capital Appreciation		Change in Asset Method		Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
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	4.30	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	- -	- -	50,798,110	5.52	-33,654,898	-3.58
2009	29,426,568	3.14	-39,403,205	-4.20	- -	- -	-9,976,637	-1.06	-96,873,908	-11.09
2010	24,452,410	2.73	12,425,399	1.39	- -	- -	36,877,809	4.12	86,792,989	11.68
2011	19,155,247	2.16	13,654,863	1.54	- -	- -	32,810,110	3.69	142,064,641	18.06
Total	$250,761,739		$91,472,659		$68,127,085		$410,361,483		$298,338,189	
							Five-year average return	3.92%		4.37%
							Ten-year average return	4.86%		3.55%

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.

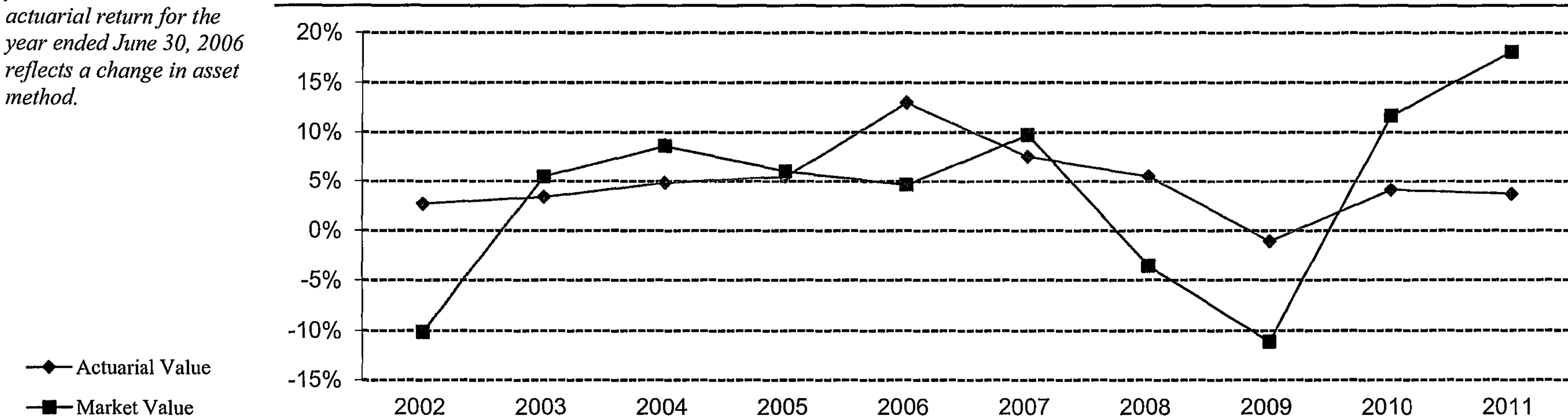
Administrative Expenses

Administrative expenses for the year ended June 30, 2011 totaled $273,817 compared to the assumption of $250,000. This resulted in a loss of $24,572 for the year when adjusted for timing. We have changed the assumption from $250,000 to $270,000 for the current year.

This chart illustrates how this leveling effect has actually worked over the years 2002 - 2011. 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, 2002 - 2011



Other Experience

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

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

The net loss from this other experience for the year ended June 30, 2011 amounted to $22,978,381, which is 2.0% of the actuarial accrued liability. This loss includes the impact of the Voluntary Retirement Incentive Program as well as updates and refinements to the valuation programming.

D. RECOMMENDED CONTRIBUTION

The amount of annual contribution required to fund the System is comprised of a normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the total payroll for active members to determine the funding rate of 21.24% of payroll.

The recommended contribution is based on a rolling 30-year amortization of the unfunded actuarial accrued liability as a level percent of pay, assuming a payroll growth of 3.00%. Expected contributions for the year are $23,137,031, or 13.00% of payroll, which leaves a deficit of 8.24% of payroll. A higher contribution will be required to fund this system on an ongoing basis and meet accepted principles and practices.

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

CHART 13

Recommended Contribution

	Year Beginning July 1			
	2011		2010	
	Amount	% of Payroll	Amount	% of Payroll
1. Normal cost*	$21,597,765	12.14%	$23,758,416	12.30%
2. Administrative expenses	260,333	0.14%	241,049	0.12%
3. Employer normal cost: (1) + (2)	$21,858,098	12.28%	$23,999,465	12.42%
4. Actuarial accrued liability	1,158,070,396		1,113,441,433	
5. Actuarial value of assets	892,096,375		913,077,824	
6. Unfunded actuarial accrued liability: (4) - (5)	$265,974,021		$200,363,609	
7. Payment on unfunded actuarial accrued liability	14,597,572	8.20%	10,996,646	5.69%
8. Total recommended contribution: (3) + (7), adjusted for timing**	$37,809,335	21.24%	$36,295,581	18.78%
9. Total payroll	$177,977,161		$193,229,880	

* *Including net obligations from the Supplemental System of -$1,771,424 for July 1, 2011 and -$1,602,882 for July 1, 2010 (-$1,837,200 and -$1,662,400 adjusted for timing).*

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

The recommended contribution as of July 1, 2011 is 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, 2010 to July 1, 2011

Recommended Contribution as of July 1, 2010	$36,295,581
Reduction in normal cost due to reduced active population	-2,240,880
Effect of investment loss	1,703,289
Effect of other gains and losses on accrued liability	1,333,604
Effect of contributions less than recommended contribution	635,925
Effect of expected change in amortization payment due to payroll growth	342,149
Effect of maintaining a 30-year rolling amortization period	-280,333
Effect of change in administrative expense assumption	20,000
Total change	$1,513,754
Recommended Contribution as of July 1, 2011	$37,809,335

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 the 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 GASB reporting requirements. Chart 15 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 Standards. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

Although the 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

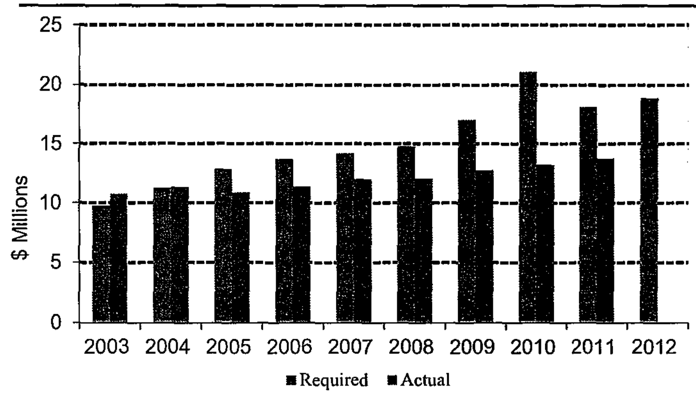


CHART 16

Funded Ratio

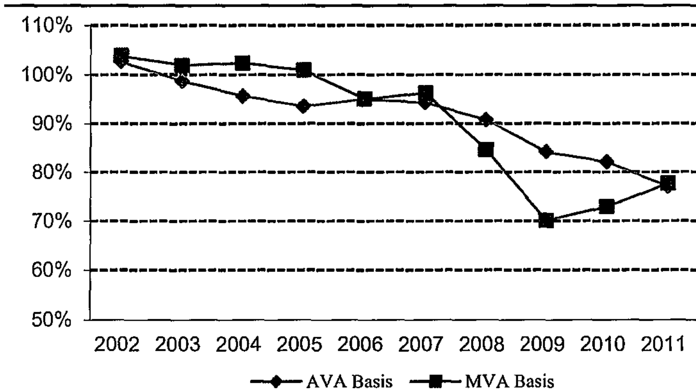


EXHIBIT A
Table of Plan Coverage

Category	2011	2010	Change From Prior Year
	Year Ended June 30		
Active participants in valuation:			
Number	3,807	4,073	-6.5%
Average age	44.2	44.7	N/A
Average years of service	11.6	11.9	N/A
Total payroll	$177,977,161	$193,229,880	-7.9%
Average payroll	46,750	47,442	-1.5%
Account balances	105,357,055	113,595,709	-7.3%
Total active vested participants	2,638	2,809	-6.1%
Vested terminated participants*	246	232	6.0%
Retired participants:			
Number in pay status	1,830	1,596	14.7%
Average age	68.1	68.5	N/A
Average monthly benefit	$2,282	$2,183	4.5%
Disabled participants:			
Number in pay status	488	475	2.7%
Average age	58.9	58.2	N/A
Average monthly benefit	$1,590	$1,603	-0.8%
Beneficiaries in pay status:			
Number in pay status	485	484	0.2%
Average age (includes minors)	73.4	73.5	N/A
Average monthly benefit	$890	$877	1.5%

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

EXHIBIT B

Participants in Active Service as of June 30, 2011
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	90	90	--	--	--	--	--	--	--	--
	$33,102	$33,102	--	--	--	--	--	--	--	--
25 - 29	323	265	57	1	--	--	--	--	--	--
	35,933	34,982	$40,507	$27,174	--	--	--	--	--	--
30 - 34	426	229	135	60	2	--	--	--	--	--
	39,298	35,210	42,857	47,099	$33,204	--	--	--	--	--
35 - 39	483	149	140	150	44	--	--	--	--	--
	44,741	36,243	43,162	52,048	53,626	--	--	--	--	--
40 - 44	618	138	103	156	171	49	1	--	--	--
	48,796	35,593	43,778	52,915	56,116	$58,049	$40,191	--	--	--
45 - 49	649	114	76	122	137	176	24	--	--	--
	50,036	38,717	41,645	48,497	52,597	57,923	65,746	--	--	--
50 - 54	583	82	64	82	113	153	78	11	--	--
	50,593	37,435	40,193	49,562	51,439	53,839	63,790	$69,437	--	--
55 - 59	454	63	44	75	76	106	70	17	3	--
	49,902	36,430	45,928	46,973	49,712	51,386	62,262	63,762	$49,744	--
60 - 64	146	24	14	32	14	26	17	12	6	1
	59,376	46,458	58,572	49,855	47,268	58,575	72,112	74,552	129,465	$56,466
65 - 69	30	13	3	4	1	4	2	3	--	--
	45,617	32,131	53,613	52,729	64,498	47,678	70,252	61,118	--	--
70 & over	5	2	--	--	1	2	--	--	--	--
	44,556	26,635	--	--	55,866	56,823	--	--	--	--
Total	3,807	1,169	636	682	559	516	192	43	9	1
	$46,750	$35,919	$43,059	$50,184	$52,952	$55,330	$64,159	$68,041	$102,891	$56,466

EXHIBIT C
Reconciliation of Participant Data

	Active Participants	Vested Former Participants	Fire and Police Retirees	Disableds	Retired Participants	Beneficiaries	Total
Number as of July 1, 2010	4,073	29	203	475	1,596	484	6,860
New participants	154	N/A	0	N/A	N/A	N/A	154
Terminations – with vested rights	0	0	0	0	0	0	0
Lump sum payoffs	-104	0	0	0	0	0	-104
Retirements	-289	-4	28	N/A	265	N/A	0
New disabilities	-23	0	0	23	N/A	N/A	0
Return to work	3	-1	0	-2	0	N/A	0
Deaths	-7	-1	-1	-9	-42	-28	-88
New beneficiaries	N/A	N/A	N/A	N/A	N/A	30	30
Certain period expired	N/A	N/A	0	0	0	-1	-1
Data adjustments	0	1	0	1	3	0	5
Retirees transferring from Supplemental Plan	0	0	-8	0	8	0	0
Number as of July 1, 2011	3,807	24	222	488	1,830	485	6,856

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2011		Year Ended June 30, 2010	
Net assets at actuarial value at the beginning of the year:		$913,077,824		$910,769,192
Contribution income:				
Employer contributions	$13,772,490		$13,224,808	
Employee contributions	11,881,396		11,896,839	
Less administrative expenses	-273,817		-263,250	
Net contribution income		$25,380,069		$24,858,397
Other income		8,000		17,000
Investment income:				
Interest, dividends and other income	$22,443,800		$27,245,853	
Recognition of capital appreciation	13,654,863		12,425,399	
Less investment fees	-3,288,553		-2,793,443	
Net investment income		32,810,110		36,877,809
Total income available for benefits		$58,198,179		$61,753,206
Less benefit payments:				
Benefits	-$61,778,841		-$55,375,248	
DROP payments	-16,042,885		-3,169,255	
Refunds	-1,360,711		-908,476	
Pension reimbursements	2,810		8,405	
Net benefit payments		-$79,179,627		-$59,444,574
Change in reserve for future benefits		-$20,981,448		$2,308,632
Net assets at actuarial value at the end of the year:		$892,096,375		$913,077,824

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

EXHIBIT E

Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended June 30, 2011		Year Ended June 30, 2010	
Net assets at market value at the beginning of the year:		$811,198,139		$758,974,327
Contribution income:				
Employer contributions	$13,772,490		$13,224,808	
Employee contributions	11,881,396		11,896,839	
Less administrative expenses	-273,817		-263,250	
Net contribution income		$25,380,069		$24,858,397
Other income		8,000		17,000
Investment income:				
Interest, dividends and other income	$22,443,800		$27,245,853	
Asset appreciation	122,909,394		62,340,579	
Less investment and administrative fees	-3,288,553		-2,793,443	
Net investment income		142,064,641		86,792,989
Total income available for benefits		$167,452,710		$111,668,386
Less benefit payments:				
Benefits	-$61,778,841		-$55,375,248	
DROP payments	-16,042,885		-3,169,255	
Refunds	-1,360,711		-908,476	
Pension reimbursements	2,810		8,405	
Net benefit payments		-$79,179,627		-$59,444,574
Change in reserve for future benefits		$88,273,083		$52,223,812
Net assets at market value at the end of the year:		$899,471,222		$811,198,139

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

EXHIBIT F
Summary Statement of Plan Assets

	Year Ended June 30, 2011		Year Ended June 30, 2010	
Cash equivalents		$21,061,624		$29,933,398
Accounts receivable:				
Employee loans	$11,413,672		$10,929,645	
Accrued interest and dividends	768,133		5,149,620	
Total accounts receivable		12,181,805		16,079,265
Investments:				
Corporate stock	$516,553,847		$383,073,422	
Domestic corporate bonds	186,481,085		191,236,283	
U.S. government obligations	164,045,686		191,820,393	
Total investments at market value		867,080,618		766,130,098
Total assets		$900,324,047		$812,142,761
Less accounts payable		-$852,825		-$944,622
Net assets at market value		$899,471,222		$811,198,139
Net assets at actuarial value		$892,096,375		$913,077,824

EXHIBIT G

Development of the Fund Through June 30, 2011

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
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
2010	13,224,808	11,896,839	17,000	36,877,809	263,250	59,444,574	913,077,824
2011	13,772,490	11,881,396	8,000	32,810,110	273,817	79,179,627	892,096,375

* *Net of investment fees*

** *Includes effect of change in asset method.*

EXHIBIT H

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2011

1. Unfunded actuarial accrued liability at beginning of year		$200,363,609
2. Normal cost at beginning of year		23,999,465
3. Total contributions		-25,653,886
4. Interest		
(a) For whole year on (1) + (2)	$15,705,415	
(b) Monthly on (3)	-823,061	
(c) Total interest		14,882,354
5. Expected unfunded actuarial accrued liability		$213,591,542
6. Change due to experience loss		52,382,479
7. Unfunded actuarial accrued liability at end of year		$265,974,021

EXHIBIT I
Definitions of Pension Terms

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

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

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

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

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

(d) 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 value of all projected benefit payments for current members less the portion that will be paid by future normal costs.

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

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

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

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

EXHIBIT J
Comparative Summary of Principal Valuation Results

	Year Ended June 30, 2011	Year Ended June 30, 2010
Participant data		
Active members	3,807	4,073
Total annual payroll	$177,977,161	$193,229,880
Retired members and beneficiaries	2,803	2,555
Total annualized benefit	$64,606,041	$56,035,176
Terminated vested members	24	29
Total annualized benefit	$325,939	$427,743
Future pensioners currently receiving benefits from Supplemental System	222	203
Total annualized benefit	$8,513,914	$7,535,565
Actuarial value of assets	$892,096,375	$913,077,824
Actuarial accrued liability:		
Active members	$459,719,404	$511,642,018
Terminated vested members	2,861,407	3,745,098
Retired members and beneficiaries	624,656,707	537,831,207
Future pensioners currently receiving benefits from Supplemental System	70,832,878	60,223,110
Total	$1,158,070,396	$1,113,441,433
Unfunded actuarial accrued liability	$265,974,021	$200,363,609

EXHIBIT I

Summary of Actuarial Valuation Results as of July 1, 2011

The valuation was made with respect to the following data supplied to us:		
1. Retired participants as of the valuation date (including 485 beneficiaries in pay status)		2,803
2. Participants inactive during year ended June 30, 2011 with vested rights (including 222 future pensioners currently receiving benefits from the Supplemental System)		246
3. Participants active during the year ended June 30, 2011		3,807
Fully vested	2,638	
Not vested	1,169	
The actuarial factors as of the valuation date are as follows:		
1. Normal cost, including administrative expenses		$21,858,098
2. Actuarial accrued liability		1,158,070,396
Retired participants and beneficiaries	$624,656,707	
Inactive participants with vested rights	73,694,285	
Active participants	459,719,404	
3. Actuarial value of assets ($899,471,222 at market value as reported by the City)		892,096,375
4. Unfunded actuarial accrued liability		$265,974,021
The determination of the recommended contribution is as follows:		
1. Normal cost		$21,597,765
2. Administrative expenses		260,333
3. Total normal cost: (1) + (2)		$21,858,098
4. Payment on unfunded actuarial accrued liability		14,597,572
5. Total recommended contribution: (3) + (4), adjusted for timing		$37,809,335
6. Total payroll		$177,977,161
7. Total recommended contribution as a percentage of total payroll: (5) ÷ (6)		21.24%

EXHIBIT II

Supplementary Information Required by the GASB – Schedule of Employer Contributions

Plan Year Ended June 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
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	13,224,808	62.6%
2011	18,147,791	13,772,490	75.9%
2012	18,904,668	--	--

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)
7/1/2006	$898,671,013	$946,584,547	$47,913,534	94.94%	$162,849,137	29.42%
7/1/2007	935,821,094	992,864,448	57,043,354	94.25%	167,807,596	33.99%
7/1/2008	953,079,670	1,050,785,799	97,706,129	90.70%	174,113,556	56.12%
7/1/2009	910,769,192	1,083,256,135	172,486,943	84.08%	186,523,480	92.47%
7/1/2010	913,077,824	1,113,441,433	200,363,609	82.01%	193,229,880	103.69%
7/1/2011	892,096,375	1,158,070,396	265,974,021	77.03%	177,977,161	149.44%

EXHIBIT IV
Supplementary Information Required by the GASB

Valuation date	July 1, 2011
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level percent of payroll, assuming 3.00% per year increase
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	3.00%
Merit, longevity, etc.	Varies from 0.00% to 4.50% for General Employees Varies from 0.50% to 6.50% for Public Safety
Plan membership:	
Retired participants and beneficiaries receiving benefits	2,803
Terminated participants entitled to, but not yet receiving benefits*	246
Active participants	3,807
Total	6,856

** Includes 222 future pensioners currently receiving benefits from the Supplemental System.*

EXHIBIT V

Development of the Net Pension Obligation (NPO) 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) x 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)
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
2010	21,118,910	13,224,808	-203,193	-218,620	13.2777	21,134,337	7,909,529	5,006,770
2011	18,147,791	13,772,490	350,474	274,789	18.2204	18,223,476	4,450,986	9,457,756

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

** *Amortization was changed from level dollar to level percent-of-pay effective July 1, 2010.*

EXHIBIT VI
Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

Healthy: RP-2000 Combined Healthy Mortality Table, set forward two years for both males and females

Disabled: RP-2000 Disabled Retiree Mortality Table, multiplied by 70%

These mortality tables were determined to contain provision appropriate to reasonably reflect future mortality improvement, based on a five-year review of mortality experience for the 2005-2010 period. The mortality assumptions will be assessed again at the time of the next five-year review, and further adjustment or expected improvements in life expectancy will be made if warranted.

Termination Rates Before Retirement:

	Rate (%)							
	Mortality		Disability			Withdrawal		
Age	Male	Female	General	Fire	Police	General*	Fire**	Police***
20	0.04	0.02	0.08	0.12	0.06	4.89	3.79	6.65
25	0.04	0.02	0.11	0.17	0.09	4.76	2.69	4.73
30	0.06	0.04	0.14	0.22	0.11	4.56	2.07	3.63
35	0.09	0.06	0.19	0.29	0.15	4.23	1.59	2.80
40	0.12	0.09	0.29	0.44	0.22	3.77	1.20	2.11
45	0.17	0.13	0.47	0.72	0.36	3.18	0.82	1.43
50	0.27	0.20	0.79	1.21	0.61	2.23	0.40	0.70
55	0.47	0.35	1.31	2.02	1.01	0.85	0.00	0.00
60	0.88	0.67	2.12	3.25	1.63	0.08	0.00	0.00

* *Withdrawal rates shown for General Employees are multiplied by 2.50 during the first five years of employment.*

** *Withdrawal rates shown for Firefighters are multiplied by 1.75 during the first five years of employment.*

*** *Withdrawal rates shown for Police Officers are multiplied by 1.70 during the first five years of employment.*

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	45%
21-25	5	21	20
26	25	22-25	5
27-28	8	26	15
29	60	27	20
30	10	28	15
31-32	0	29	50
33	40	30	30
34	20	31-32	0
35	100	33	45
		34	25
		35	100

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

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

Age	Rate**
Under 50	0%
50-54	15
55-59	8
60	15
61	20
62	40
63-64	20
65	40
66-74	25
Over 74	100

** *General Employee rates are decreased to 0% at 30 years and decreased by 75% when employee has 31-32 years of service. The rate is increased to 150% of 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:	80%
Age of Spouse:	Females three years younger than males
On the Job Disability:	
General	50%
Fire and Police	100%
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	4.00	4.00
55	3.50	4.00
60	3.00	4.00

Includes allowance for inflation of 3.00% per year.

Interest on DROP Accounts:	5.00%
Administrative Expenses:	$270,000, payable monthly, equivalent to $260,333 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. The valuation reflects a change in valuation software that meets the requirements of Revenue Procedure 2000-40 for automatic approval.
Change in Assumptions:	The only assumption changed with this valuation was an increase in the administrative expense assumption from $250,000 to $270,000.

EXHIBIT VII
Summary of Plan Provisions

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

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

Disability:

Ordinary

Service Requirement	5 years credited service.
Amount	2.00% of final average salary at disability for each year of credited service, payable immediately. This amount cannot be greater than 60% of final average salary nor less than $400.

Extraordinary

Service Requirement	None
Amount	70% of final monthly salary at disability, offset by the maximum Worker's Compensation benefit, payable immediately.

Termination:

To a participant terminating before becoming eligible for a vested deferred pension from the plan, a lump sum of his or her own contributions without interest is payable.

Participants terminating after 5 years of actual service who leave their contributions in the System Fund have a non-forfeitable right to a monthly pension beginning at age 60. The form and amount of the pension are the same as the normal pension.

Death Benefits:

If a participant dies prior to his or her attainment of eligibility for retirement, a lump sum of his or her own contributions without interest is payable to his or her beneficiary.

If an active participant who is eligible to retire or a retired participant dies, 60% of the accrued pension benefit is payable to the surviving spouse, if any, during his or her remaining lifetime. If an active participant (other than a participant of the Firemen and Policemen Supplemental System) who is not eligible to retire, but who has completed 5 years of service dies, a portion of 60% of the accrued pension benefit is payable to the spouse during her remaining lifetime. This portion is defined as follows:

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

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

Back-DROP:	An employee with 33 years of service or who is at least age 63 with 23 years of service may elect up to a 36-month Back-DROP. The employee's monthly benefit will be calculated using service and final average salary as of the Back-DROP date and the employee will receive a lump sum equal to the number of months dropped back times the retirement benefit, accumulated with interest.
Participation:	All qualified employees of the Retirement and Relief System are required to participate.
Contributions:	The City and the City employees each contribute 6.50% of compensation for the year.