

EMPLOYEES' RETIREMENT SYSTEMOF THE STATE OF HAWAII

REPORT TO BOARD OF TRUSTEES ON THE 84^{TH} ANNUAL ACTUARIAL VALUATION

FOR THE YEAR BEGINNING JUNE 30, 2009



January 21, 2010

Board of Trustees
Employees' Retirement System of
The State of Hawaii
City Financial Tower
201 Merchant St., Ste. 1400
Honolulu, HI 96813-2980

Dear Trustees:

SUBJECT: ACTUARIAL VALUATION AS OF JUNE 30, 2009

We certify that the information contained in the 2009 actuarial valuation report is accurate and fairly presents the actuarial position of the Employees' Retirement System of the State of Hawaii (ERS) as of June 30, 2009.

All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the results presented comply with the requirements of the Hawaii statutes and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries. One or more of them are an Enrolled Actuary and/or a Member of the American Academy of Actuaries. All are experienced in performing valuations for large public retirement systems.

ACTUARIAL VALUATIONS

The primary purpose of the valuation report is to determine the adequacy of the current employer contribution rate through measuring the resulting funding period, to describe the current financial condition of ERS, and to analyze changes in ERS's condition. In addition, the report provides information required by ERS in connection with Governmental Accounting Standards Board Statement No. 25 (GASB No. 25), and it provides various summaries of the data.

Valuations are prepared annually, as of June 30th of each year, the last day of ERS's plan year and fiscal year.

FINANCING OBJECTIVES

Contribution rates are established by Law that, over time, are intended to remain level as a percent of payroll. The employee and employer contribution rates have been set by Law and are intended to provide for the normal cost plus the level percentage of payroll required to amortize the unfunded actuarial accrued liability (UAAL) over a period not in excess of 30 years.

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PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

The actuarial accrued liability, the unfunded actuarial accrued liability (UAAL), and the calculation of the resulting funding period illustrate the progress toward the realization of financing objectives. Like most pension funds across the country, the System was significantly impacted by the severe downturn in the investment markets during fiscal year 2009. Based on this actuarial valuation as of June 30, 2009, ERS's underfunded status has increased significantly because of a loss on the actuarial assets as result of market investment losses. In addition, the System had a the liability experience loss which was caused by higher than expected salary increases. The UAAL is now \$6.236 billion.

The Legislature increased the employer contribution rates to 19.70% for Police and Fire employees and 15.00% for All Other Employees, effective July 1, 2008. Based on these contribution rates and the Employee contributions, the remaining amortization period is 28.2 years. Because this period is less than 30 years, the financing objectives of ERS are currently being realized.

In the absence of significant actuarial losses, the employer contribution rates in fiscal year 2010 and beyond would normally be sufficient to satisfy the GASB No. 25 Annual Required Contribution (ARC) requirements. However, only a portion of the investment losses of fiscal year 2009 have been recognized in this valuation. As the remainder of the losses is recognized in future valuations it is likely that the current employer contribution rates will no longer be sufficient to satisfy the GASB ARC.

BENEFIT PROVISIONS AND LEGISLATIVE CHANGES

There was no legislation enacted that impacted the benefit provisions of the System. See Table 16 of this report for more details on the benefit provisions of the System.

ASSUMPTIONS AND METHODS

The actuarial assumptions used were adopted by the Board on August 14, 2006 based on the recommendations provided by an Experience Study performed by us. While the current investment return assumption is the assumption recommended in the Study, the assumption is actually set by legislative action. Further detail on the assumptions and methods may be found in Table 18 of this report.

In our opinion, the assumptions are internally consistent and are reasonably based on the actual experience of ERS. These assumptions are also in full compliance with all parameters established by GASB No. 25.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions.

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Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. The actuarial calculations are intended to provide information for rational decision making.

DATA

Member data for retired, active, and inactive participants was supplied as of March 31, 2009, by ERS's staff. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data. Asset information was supplied by ERS's staff.

RESPONSIBILITY FOR TABLES AND SCHEDULES

The actuary is responsible for the information with respect to years after 1999 in the Required Supplementary Information, the Schedule of Employer Contributions, and the Notes To Required Supplementary Information in the Financial Section of the ERS's Comprehensive Annual Financial Report (CAFR). Information with respect to years prior to 2000 was supplied by ERS.

Tables and schedules in the Actuarial Section of the CAFR were generally prepared directly by the Actuary. Certain of these tables, however, were prepared by ERS utilizing information from this report. When those tables were prepared by ERS from our report, they are so noted.

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries and consultants. Mr. Newton is an Enrolled Actuaries, a Member of the American Academy of Actuariesand meets the Qualification Standards of the American Academy of Actuaries. Finally, all of the undersigned are experienced in performing valuations for large public retirement systems.

Lewis Ward

Sincerely,

Joseph P. Newton, FSA, EA Senior Consultant & Actuary Lewis Ward Consultant Linna Ye, ASA Actuary

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SECTION A EXECUTIVE SUMMARY

Executive Summary

The following table summarizes the key results of the June 30, 2009 actuarial valuation of the Employees Retirement System of the State of Hawaii (ERS).

Item	2009	2008
Membership		
Number of		
- Active members	67,912	66,589
- Retirees and beneficiaries	36,999	36,260
- Inactive, vested	6,016	5,847
- Total	110,927	108,696
 Covered payroll for active members 	\$3,838.0 million	\$3,601.7 million
 Actual benefit payments and refunds 	\$842.6 million	\$796.0 million
Assets		
Actuarial value	\$11,400.1 million	\$11,381.0 million
 Market value 	\$8,818.0 million	\$10,846.8 million
 Return on actuarial value 	0.9%	8.9%
 Return on market value 	(18.0%)	(4.1%)
 Employer contributions during fiscal year 	\$578,635,281	\$488,770,028
External cash flow %	(1.0%)	(1.4%)
Actuarial Information		
 Total normal cost % (employee + employer) 	12.55%	12.54%
 Unfunded actuarial accrued 		
liability (UAAL)	\$6,236.3 million	\$5,168.1 million
 Funded ratio (based on actuarial assets) 	64.6%	68.8%
 Funded ratio (based on market assets) 	50.0%	65.5%
 Funding period (years) 	28.2	22.6
 Employer contribution rate 		
% of projected payroll*		
For FY 2010 & Beyond	15.47%	15.46%
 GASB ARC for FY 2010 		
% of projected payroll		
Police & Fire Employees	19.91%	17.84%
All Other Employees	14.62%	13.66%
Composite - All Employees	15.17%	14.09%

^{*} Weighted average of 19.70% Contribution Rate for Police and Firefighters and 15.00% Contribution Rate for All Other Employees beginning July 1, 2008.

SECTION B

INTRODUCTION

Introduction

The results of the June 30, 2009 actuarial valuation of ERS are presented in this report.

The primary purpose of the valuation report is to determine the adequacy of the current employer contribution rates through measuring the resulting funding period, to describe the current financial condition of ERS, and to analyze changes in ERS's condition. In addition, this report presents information required by ERS in connection with Governmental Accounting Standards Board Statement No. 25 (GASB No. 25).

Section C discusses the funded status of ERS. Section D analyzes the change in the UAAL. Section G discusses the disclosure requirements of GASB No. 25.

Sections E, F, H, and I discuss background information used in the preparation of this reportbenefit provisions, actuarial assumptions and methods, financial information, and membership data. Section K contains the actuarial certification.

All the tables referenced by the other sections appear in Section L.

SECTION CFUNDED STATUS

Funded Status

Table 1 shows the development of the Plan's liabilities and funded status for the current year and compares it with those of the prior year.

The funding policy of ERS uses a method of determining the amortization period that would amortize the UAAL using a fixed contribution rate.

The calculation of the funded status involves the following steps and includes the following comments:

- The actuarial present value of future benefits is determined for the present members, including retired members, beneficiaries, inactive members, and active members. This amounts to \$20.7 billion. Table 2 shows the development of this total for the current year and the prior year.
- The entry age normal funding method is used to allocate the actuarial present value of future benefits between that portion due for the current year (the normal cost), prior years (the actuarial accrued liability) and future years (the present value of future normal cost). Under the entry age normal cost method, the current and future normal costs are determined as a level percentage of payroll. Table 3 shows an analysis of the normal cost for the current year and the prior year. The amount needed to fund the current and future normal costs is 18.79% of pay for Police and Fire employees and 11.83% for All Other employees. It includes all of the employees' contribution (if any) and the employers' normal cost rate. This may be thought of as the total (member plus employer) contribution rate needed to pay for the average new member over their career.
- A part of the normal cost is paid by the employee contributions of 12.20% of pay for Police and Firefighters, leaving 6.59% of pay to be funded by the employers. Thus the current year's employer normal cost for Police and Firefighters is deemed to be 6.59% of the valuation payroll. As for the All Other Employees group, the average weighted effective employee contribution rate is 6.05% of pay, leaving 5.78% of pay to be funded by the employers. This is shown in Line 3 of Table 1.

- The UAAL is \$6.236 billion for 2009, an increase from \$5.168 billion in 2008. As indicated in Table 1, the UAAL equals the difference between the total actuarial accrued liability (Item 7) and current actuarial assets (Item 8). A portion of the contribution rate will be used to amortize the UAAL. This amortization percentage is equal to the difference between the total employer contribution rate and the employer normal cost rate. For Police and Fire employees, this percentage is equal to 13.11% (19.70% 6.59%). For the All Other employees, this percentage is equal to 9.22% (15.00% 5.78%).
- In determining the number of years that will be required to amortize the UAAL, an assumption is made concerning future growth of the ERS covered payroll. GASB Statement No. 25 requires that the payroll growth assumption not consider growth in the active employee census. The GASB 25 compliant payroll growth assumption is 3.50%.
- As shown in Item 10 of Table 1 and using the assumed rate of increase in covered payroll of 3.50%, the period to fund the UAAL is 31.0 years for Police and Fire and 27.6 years for the All Other Employees group. The aggregate funding period for ERS is 28.2 years.
- Since the aggregate funding period based on the contribution rates is less than 30 years, the rates will be adequate to meet the requirements of GASB No. 25.
- We think it is important to note that over \$2.5 billion in investment losses are still being deferred to future valuations. Without significant investment gains in the near future, the funded position of ERS will decline in the future and the current contribution rates will no longer satisfy the requirements of the GASB ARC. Because of this we urge strong caution when discussing contribution rate reductions or benefit enhancements.

As of the valuation date, ERS has a funded ratio of 64.6%, based on the actuarial value of assets.

SECTION DANALYSIS OF CHANGES

Analysis of Changes

Section C has noted that the unfunded actuarial accrued liability (UAAL) is \$6.236 billion as of June 30, 2009 compared to the \$5.168 billion UAAL for 2008.

Table 7 develops the estimated yield for the year based on two measures of asset values. Table 9b takes the information contained in Table 6 and develops the expected value of actuarial assets for this valuation, based on the investment return assumption of 8%.

As shown in Item 5 of Table 9b, the expected value of actuarial assets as of June 30, 2009 is \$12.209 billion. As developed in Table 6, the actual value of actuarial assets as of the valuation date is \$11.400 billion (as repeated in Item 6 of Table 9b). Thus the asset loss for the year is the difference between the actual value and the expected value, or -\$808.7 million (as shown in Item 7). This asset loss for the year is a direct reflection of the estimated yield for the year based on the value of actuarial assets, namely 0.87% (as shown in Item B4 of Table 7).

The actuarial asset valuation method is intended to smooth out year-to-year fluctuations in the market return. The excess or shortfall in the actual return during the year, compared to the 8% investment return assumption, is spread over this valuation and the next three valuations.

The investment climate became very unfavorable during the 2008/2009 plan year, and the market return of -18.04% was significantly less than the 8% assumption. The rate of return for the actuarial value was 0.87%, which is much greater than the market return because of the four-year smoothing technique. The actuarial value of assets exceeds the market value of assets by -\$2,582 million, so there are -\$2,582 million in deferred investment losses to be recognized over the next three years.

Table 9a indicates that the total actuarial experience loss for the 2008/2009 plan year was \$1,026.1 million (Item 7). As noted above, the actuarial investment loss was equal to -\$808.7 million. This means that there was a liability experience loss during the year equal to -\$217.4 million. As shown in Item 9, this liability experience loss is primarily due to actual salary increases exceeding the recommended salary scale assumption.

Table 9c traces the forces changing the UAAL, the funding period, and the GASB ARC (30-year funding) from the last valuation to this valuation. As may be seen from this table, the experience of the System increased the funding period by more than 6.5 years from the expected funding period of 21.6 years, while the 30-year ARC increased by more than 0.6% of pay over the 30-year ARC from last year's valuation.

SECTION E

ERS ASSETS

ERS Assets

Table 4 presents a summary of the market value of assets held by the ERS. About 63% of the assets are held in equities (including alternative investments) and real estate compared with 66% last year. Table 5 shows a reconciliation of the assets from the beginning of the prior year to the valuation date.

Table 6 shows the development of the Actuarial Value of Assets (AVA). An actuarial value is used in order to dampen some of the year-to-year fluctuations which would occur if the market value were used instead. The method used phases in differences between actual and expected earnings at 25% per year. (Expected earnings are now determined using market value and the 8.00% investment return assumption. Actual earnings are net of all investment and administrative expenses.)

Table 7 shows an estimate of the ERS's dollar-weighted rate of return for the year. This is shown on (i) the market value of assets (reflecting all realized and unrealized gains and losses), and (ii) the actuarial value of assets. While the dollar-weighted market return this year was -18.04%, the return on the actuarial value was 0.87%. The difference between these is due to the smoothing effect of the AVA valuation method.

Table 9b determines the asset gain or loss for the year, based on the difference between the actual fund return and the assumed rate of 8%.

Finally, Table 13 shows a history of cash flows for the trust.

SECTION FBENEFIT PROVISIONS

Benefit Provisions

Table 16 summarizes the provisions of ERS used in this valuation. Table 17 is a historical record of prior legislative changes starting with changes effective in 1999. There were no benefit changes passed since the last valuation that had an actuarial impact on the valuation.

Legislation was enacted in fiscal year 2007 to increase the employer contribution rates to the System. Effective July 1, 2008, the employer contribution rate for Police and Fire employees increased from 15.75% to 19.70% and the rate for All Other employees increased from 13.75% to 15.00%.

This valuation reflects benefits promised to members by the ERS's statutes. There are no ancillary benefits - retirement type benefits not required by the ERS's statutes but which might be deemed an ERS liability if continued beyond the availability of funding by the current funding source.

Act 179/2004 was adopted during FY2003/2004 and established the new Hybrid Plan that became effective on July 1, 2006. Current participants had the choice to elect to move to the new plan or stay in the current plan. There were 26,228 plan members who elected to so transfer, and the Hybrid Plan provisions have been reflected in the results of this report.

SECTION G

GASB NO. 25 DISCLOSURE

GASB No. 25 Disclosure

Governmental Accounting Standards Board (GASB) Statement No. 25 governs reporting for government-sponsored retirement plans.

This report includes Tables 11a, 11b, and 11c--showing information required to be reported under GASB No. 25. Table 11a shows a history of funding progress (a comparison of actuarial assets with the actuarial accrued liability and a comparison of UAAL with compensation).

Table 11b shows the Schedule of Employer Contributions as computed under GASB No. 25, and it shows what percent of this amount was actually received.

Table 11c shows other information that must be included in the notes section of the financial report. The auditor's notes should disclose the following events which may affect the comparability of the trend information shown in Tables 11a and 11b: the change in assumptions effective as of June 30, 2006, and the new salary scale assumption effective June 30, 2007.



Actuarial Assumptions and Methods

In determining costs and liabilities, actuaries use assumptions about the future, such as rates of salary increase, probabilities of retirement, termination, death and disability, and an investment return assumption. The ERS's Board adopts the assumptions used (other than the investment return assumption), taking into account the actuary's recommendations. The investment return assumption is set by statute.

In addition to the actuarial assumptions, the actuary also makes use of an actuarial funding method to allocate costs to particular years. In common with most public sector plans, ERS uses the entry age normal method. This method produces a relatively level pattern of funding over time, and thereby provides equity among various generations of taxpayers. We continue to believe this method is appropriate for ERS.

Please see Table 18 for a complete description of the actuarial assumptions and methods.

SECTION IMEMBERSHIP DATA

Membership Data

Membership data was provided in computer files sent on CD-ROM by the staff. Data for active members include sex, birthdate, service, pay rate as of March 2009, employer entity and accumulated employee contributions. Data for inactive, nonretired members was similar, but also includes the members' unreduced benefit. For retired members, data includes status (service retiree, disabled retiree or beneficiary), sex, birthdate, pension amount, pension COLA amount, form of payment, beneficiary sex and birthdate if applicable, and date of retirement.

While not verifying the correctness of the data at the source, we performed various tests to ensure the internal consistency of the data and its overall reasonableness.

Membership statistics are summarized in Table 12a. Table 12b summarizes certain active member data, and the age/service distribution of active members is shown in Table 19. Tables 30-43 show various distributions of retirees.

Since last year, the number of active members increased by 1,323 members from 66,589 to 67,912. These 67,912 active members are distributed as follows:

Category	Number	% of Total
(1)	(2)	(3)
Police & Fire	4,955	7.4%
Contributory	2,532	3.7%
Noncontributory	22,709	33.4%
Hybrid Plan	<u>37,716</u>	<u>55.5%</u>
Total	67,912	100.00%

Total payroll increased 6.6% since last year. For all comparative purposes, payroll is the amount supplied by the staff (i.e., March 2009 pay rate). However, this figure is increased by one year's pay increase to determine the member's rate of pay at July 1, 2009.

Average age and average service of the active members stayed relatively stable this year. Average age increased from 46.6 years to 46.8 years, while average service remained at 12.9 years.

SECTION JSUMMARY AND CLOSING COMMENTS

Summary and Closing Comments

To summarize the results of the actuarial valuation of the Employees' Retirement System as of June 30, 2009, it is our opinion that if all assumptions are met going forward, the present assets plus future required contributions will be sufficient to provide the benefits specified in the law. The funding period is greater than the 25-year period preferred by the Board, but is less than the 30-year maximum period specified by GASB No. 25.

There are \$2,582 million in unrecognized investment losses as of the valuation date that are being deferred into the next following three actuarial valuations under the actuarial asset valuation method. In the absence of offsetting gains during the next three plan years, the funded position of the plan should decline. It should be noted that there were unrecognized investment losses in the amount of \$534 million as of June 30, 2008. Hence, during the last year the System has seen an increase in the amount of deferred investment losses of more than \$2 billion.

In our opinion, the results of the actuarial valuation of the Employees' Retirement System of the State of Hawaii as of June 30, 2009, are mixed. On the positive side, the System still has a funding period of less than the 30-year maximum allowed by GASB No. 25.

However, there are also several discouraging results and outlooks. The key ones are as follow:

- The actuarial asset method is now deferring \$2,582 million in deferred investment losses.
- The System continues to experience liability losses due to higher than expected salary increases
- The current contribution rates are likely to produce a funding period in excess of 30 years at the next actuarial valuation

We will be closely monitoring these outlooks over the next few valuations and will be proactive in making recommendations as necessary.

SECTION K ACTUARIAL CERTIFICATION STATEMENT

Actuarial Certification Statement

	Police and	All Other	
	Firefighters	Employees	All Employees
	June 30, 2009	June 30, 2009	June 30, 2009
	(1)	(2)	(3)
1. Gross normal cost as a percentage of pay	18.79%	11.83%	12.55%
2. Present value of future benefits			
a. Active employees	\$ 2,249,782,797	\$ 9,647,080,045	\$11,896,862,842
b. Inactive members	25,468,378	242,957,644	268,426,022
c. Pensioners and beneficiaries	1,372,093,536	7,211,936,414	8,584,029,950
d. Total	\$3,647,344,711	\$ 17,101,974,103	\$ 20,749,318,814
Present value of future employee and employer contributions			
a. Present value of future normal costs	\$ 657,810,931	\$ 2,455,075,567	\$ 3,112,886,498
b. Present value of future employee contributions	427,691,434	1,026,599,348	1,454,290,782
c. Present value of future employer normal costs			
(Item 3a - Item 3b)	\$ 230,119,497	\$ 1,428,476,219	\$ 1,658,595,716
4. Actuarial accrued liability (Item 2d - Item 3a)	\$ 2,989,533,780	\$ 14,646,898,536	\$ 17,636,432,316
5. Actuarial value of assets			
a. Annuity Savings Fund	\$ 616,875,800	\$ 663,124,200	\$ 1,280,000,000
b. Pension Accumulation Fund	1,472,216,680	8,647,900,194	10,120,116,874
c. Total	\$ 2,089,092,480	\$ 9,311,024,394	\$11,400,116,874
6. Unfunded actuarial accrued liability	\$ 900,441,300	\$ 5,335,874,142	\$ 6,236,315,442
7. Adequacy of contribution rates			
a. Statutory Contribution Rate for Fiscal Year 2010b. Statutory Contribution Rate beginning	15.75%	13.75%	13.95%
Fiscal Year 2010	19.70%	15.00%	15.47%
c. Funding Period in years as of June 30, 2009	31.0	27.6	28.2
8. GASB Annual Required Contribution	19.91%	14.62%	15.17%

Actuarial Certification Statement

The actuarial valuation as of June 30, 2009 is based on the provisions of Chapter 88 of the Hawaii Revised Statutes, as amended. The assumptions used in the cost calculations were those adopted by the Board of Trustees on August 14, 2006 based on statutory requirements and on the actuary's actuarial experience investigation report covering the five-year period July 1, 2000 – June 30, 2005. The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures.

In our opinion, the contributions required to meet ERS's liabilities were calculated in accordance with the provisions of Chapter 88 regarding the funding of the Employees' Retirement System on an actuarial reserve basis.

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned is an independent actuary and consultant. Mr. Newton is an Enrolled Actuaries, a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries. Finally, he is experienced in performing valuations for large public retirement systems.

Joseph P. Newton, FSA, EA Senior Consultant & Actuary

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SECTION L

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Development of Employer Cost

	-	Police and Firefighters June 30, 2009	Other Employees June 30, 2009 (2)	 All Employees June 30, 2009
1.	Payroll (adjusted for one year's pay increase)	\$ 405,782,581	\$ 3,624,338,479	\$ 4,030,121,060
2.	Gross normal cost (Table 3)	18.79%	11.83%	12.55%
3.	Employer normal cost rate (Table 3)	6.59%	5.78%	5.88%
4.	Present value future benefits (Table 2)	\$ 3,647,344,711	\$ 17,101,974,103	\$ 20,749,318,814
5.	Present value future employer normal cost	\$ 230,119,497	\$ 1,428,476,219	\$ 1,658,595,716
6.	Present value future employee contributions	\$ 427,691,434	\$ 1,026,599,348	\$ 1,454,290,782
7.	Actuarial accrued liability (Item 4 - Item 5 - Item 6)	\$ 2,989,533,780	\$ 14,646,898,536	\$ 17,636,432,316
8.	Actuarial value of assets	\$ 2,089,092,480	\$ 9,311,024,394	\$ 11,400,116,874
9.	Unfunded actuarial accrued liability (UAAL) (Item 7 - Item 8)	\$ 900,441,300	\$ 5,335,874,142	\$ 6,236,315,442
10.	Funding Period a. Statutory Contribution Rate Beginning July 1, 2009 b. Less Employer normal cost	19.70% -6.59%	15.00% -5.78%	15.47% -5.88%
	c. Employer Amortization payment (level %) (Item 10a + Item 10b) d. Funding Period in years	13.11% 31.0	9.22% 27.6	9.59% 28.2

	-	Police and Firefighters June 30, 2008	Other Employees June 30, 2008 (2)	_	All Employees June 30, 2008 (3)
1.	Payroll (adjusted for one year's pay increase)	\$ 373,473,901	\$ 3,408,628,842	\$	3,782,102,743
2.	Gross normal cost (Table 3)	18.78%	11.83%		12.54%
3.	Employer normal cost rate (Table 3)	6.58%	5.79%		5.89%
4.	Present value future benefits (Table 2)	\$ 3,388,246,758	\$ 16,049,268,403	\$	19,437,515,161
5.	Present value future employer normal cost	\$ 213,543,889	\$ 1,353,580,123	\$	1,567,124,012
6.	Present value future employee contributions	\$ 397,591,395	\$ 923,730,700	\$	1,321,322,095
7.	Actuarial accrued liability (Item 4 - Item 5 - Item 6)	\$ 2,777,111,474	\$ 13,771,957,580	\$	16,549,069,054
8.	Actuarial value of assets	\$ 2,076,350,165	\$ 9,304,610,839	\$	11,380,961,003
9.	Unfunded actuarial accrued liability (UAAL) (Item 7 - Item 8)	\$ 700,761,309	\$ 4,467,346,741	\$	5,168,108,050
10.	Funding Period	10.700/	16.000/		15.160/
	a. Statutory Contribution Rate Beginning July 1, 2008	19.70%	15.00%		15.46%
	b. Less Employer normal cost Employer A most intrins normant (level %) (Item 10a + Item 10b)	<u>-6,58%</u> 13,12%	<u>-5.79%</u> 9.21%		<u>-5.89%</u> 9.57%
	 c. Employer Amortization payment (level %) (Item 10a + Item 10b) d. Funding Period in years 	13.12%	9.21%		9.37% 22.6

Actuarial Present Value of Future Benefits

	e and Firefighters June 30, 2009	Other Employees June 30, 2009	All Employees June 30, 2009		
	(1)	(2)		(3)	
1. Active members					
a. Service retirement benefits	\$ 2,134,640,502	\$ 8,760,536,315	\$	10,895,176,817	
b. Temination Benefits	74,612,087	688,066,918		762,679,005	
c. Survivor benefits	30,776,107	117,925,709		148,701,816	
d. Disability retirement benefits	9,754,101	 80,551,103		90,305,204	
e. Total	\$ 2,249,782,797	\$ 9,647,080,045	\$	11,896,862,842	
2. Retired members					
a. Service retirement	\$ 1,288,240,681	\$ 6,781,867,166	\$	8,070,107,847	
b. Disability retirement	26,367,284	127,237,567		153,604,851	
c. Beneficiaries	57,485,571	302,831,681		360,317,252	
d. Total	\$ 1,372,093,536	\$ 7,211,936,414	\$	8,584,029,950	
3. Inactive members					
a. Vested terminations	\$ 22,898,429	\$ 242,312,509	\$	265,210,938	
b. Nonvested terminations	2,569,949	645,135		3,215,084	
c. Total	\$ 25,468,378	\$ 242,957,644	\$	268,426,022	
4. Total actuarial present value of future benefits	\$ 3,647,344,711	\$ 17,101,974,103	\$	20,749,318,814	

	Police and Firefighters June 30, 2008			Other Employees June 30, 2008	All Employees June 30, 2008		
		(1)		(2)		(3)	
1. Active members							
a. Service retirement benefits	\$	1,950,194,975	\$	8,082,533,862	\$	10,032,728,837	
b. Temination Benefits		70,108,943		611,632,705		681,741,648	
d. Survivor benefits		28,380,596		107,799,287		136,179,883	
e. Disability retirement benefits		9,040,885		74,034,778		83,075,663	
f. Total	\$	2,057,725,399	\$	8,876,000,632	\$	10,933,726,031	
Retired members a. Service retirement b. Disability retirement c. Beneficiaries	\$	1,236,454,997 25,959,362 50,015,777	\$	6,537,375,832 117,299,769 263,233,053	\$	7,773,830,829 143,259,131 313,248,830	
d. Total	\$	1,312,430,136	\$	6,917,908,654	\$	8,230,338,790	
3. Inactive members a. Vested terminations b. Nonvested terminations	\$	18,027,645 63,578	\$	250,127,923 5,231,194	\$	268,155,568 5,294,772	
c. Total	\$	18,091,223	<u> </u>	255,359,117	\$	273,450,340	
4. Total actuarial present value of future benefits	_	3,388,246,758	\$	16,049,268,403	\$	19,437,515,161	

Analysis of Normal Cost

	Police and Firefighters June 30, 2009 (1)	All Other Employees June 30, 2009 (2)	All Employees June 30, 2009 (3)
Normal cost as a percent of pay a. Service retirement benefits b. Deferred termination benefits c. Refunds	16.04%	8.40%	9.19%
	0.70%	1.22%	1.17%
	1.46%	1.82%	1.78%
d. Disability retirement benefits e. Survivor benefits f. Total	0.16%	0.18%	0.18%
	0.43%	0.21%	0.23%
	18.79%	11.83%	12.55%
 Employee contribution rate Effective employer normal cost rate	12.20%	6.05%	6.67%
(Item 1f - Item 2)	6.59%	5.78%	5.88%

	D " 1	A 11 O 1	
	Police and	All Other	
	Firefighters	Employees	All Employees
	June 30, 2008	June 30, 2008	June 30, 2008
	(1)	(2)	(3)
Normal cost as a percent of pay			
a. Service retirement benefits	16.04%	8.39%	9.18%
b. Deferred termination benefits	0.69%	1.24%	1.18%
c. Refunds	1.47%	1.82%	1.78%
d. Disability retirement benefits	0.15%	0.17%	0.17%
e. Survivor benefits	0.43%	0.21%	0.23%
f. Total	18.78%	11.83%	12.54%
2. Employee contribution rate	12.20%	6.04%	6.65%
3. Effective employer normal cost rate			
(Item 1f - Item 2)	6.58%	5.79%	5.89%

Plan Net Assets (Assets at Market or Fair Value)

		Valuation as of					
	Item	June 30, 2009			June 30, 2008		
	(1)		(2)		(3)		
1.	Cash and cash equivalents	\$	392,555,319	\$	692,390,538		
2.	Receivables:						
	a. Accounts receivable and others	\$	340,253	\$	391,174		
	b. Investment sale proceeds		352,928,523		318,541,558		
	c. Accrued income		38,677,712		41,405,112		
	d. Employer contributions		46,378,558		11,765,521		
	e. Member contributions		3,951,657		3,742,183		
	f. Subtotal	\$	442,276,703	\$	375,845,548		
3.	Investments						
	a. Equity securities	\$	4,541,676,625	\$	6,156,177,101		
	b. Fixed income securities		3,000,889,114		3,258,260,064		
	c. Real estate investments		696,435,920		895,199,859		
	d. Real estate mortgages		-		-		
	e. Alternative investments		429,651,424		457,642,073		
	f. Subtotal	\$	8,668,653,083	\$	10,767,279,097		
4.	Other						
	a. Invested securities lending collateral	\$	761,555,699	\$	1,235,028,470		
	b. Equipment at cost, net of depreciation		11,358,647		11,358,647		
	c. Other assets				-		
	d. Subtotal	\$	772,914,346	\$	1,246,387,117		
5.	Total assets	\$	10,276,399,451	\$	13,081,902,300		
6.	Liabilities						
	a. Bank overdraft	\$	771,595	\$	1,592,615		
	b. Accounts payable		25,538,746		44,341,678		
	c. Investment commitments payable		670,580,396		954,150,572		
	d. Due to employers		-		•		
	e. Securities lending collateral		761,555,699		1,235,028,470		
	f. Total liabilities	\$	1,458,446,436	\$	2,235,113,335		
7.	Total market value of assets available for benefits (Item 5 - Item 6f)	\$	8,817,953,015	\$	10,846,788,965		

Reconciliation of Plan Net Assets

		Year Ending			
		June 30, 2009		June 30, 2008	
			(1)		(2)
1.	a. Value of assets at beginning of year	\$ 10,846,788,965		\$11,434,277,047	
	b. Adjustment due to post valuation changes in CAFR assets		-	28,139,819	
	c. Adjusted value of assets at beginning of year	\$	10,846,788,965	\$11,462,416,866	
2.	Revenue for the year				
	a. Contributions				
	i. Member contributions	\$	184,520,539	\$	163,375,639
	ii. Employer contributions		578,635,281		488,770,028
	iii. Total	\$	763,155,820	\$	652,145,667
	b. Income				
	i. Interest, dividends, and other income	\$	299,316,135	\$	350,072,819
	ii. Investment expenses		(12,486,897)	_	(31,727,430)
	iii. Net	\$	286,829,238	\$	318,345,389
	c. Net realized and unrealized gains (loss)	\$	(2,223,863,835)	_\$	(779,408,469)
	d. Net income (loss)	\$	(1,937,034,597)	\$	(461,063,080)
	e. Total revenue	\$	(1,173,878,777)	\$	191,082,587
3.	Expenditures for the year				
	a. Refunds	\$	3,485,038	\$	3,668,857
	b. Benefit payments		839,128,651		792,312,830
	c. Administrative and miscellaneous expenses		12,343,484		10,728,801
	d. Total expenditures	\$	854,957,173	\$	806,710,488
4.	Increase (decrease) in net assets (Item 2e - Item 3d)	\$	(2,028,835,950)	\$	(615,627,901)
5.	Value of assets at end of year (Item 1c + Item 4)	\$	8,817,953,015	\$ 1	0,846,788,965

Development of Actuarial Value of Assets

		Year Ending June 30, 2009
1.	Market value of assets at beginning of year	\$ 10,846,788,965
2.	Net new investments	
	 a. Contributions b. Benefits paid c. Refunds d. Subtotal 	\$ 763,155,820 (839,128,651) (3,485,038) (79,457,869)
3.	Market value of assets at end of year	\$ 8,817,953,015
4.	Net earnings (3-1-2d)	\$ (1,949,378,081)
5.	Assumed investment return rate	8.00%
6.	Expected return	\$ 864,564,802
7.	Excess/(shortfall) return (4-6)	\$ (2,813,942,883)

8. Deferred earnings as of June 30, 2009:

Period End	Excess Return	Percent Deferred	Deferred Amount
(1)	(2)	(3)	(4)
L 20, 2000 (Jan. 7 ab a.m.)	f/2 012 042 002\	750/	¢ (2.110.457.162)
June 30, 2009 (Item 7 above)	\$(2,813,942,883)	75%	\$ (2,110,457,162)
June 30, 2008 (From 2008 report)	(1,383,031,789)	50%	(691,515,895)
June 30, 2007 (From 2007 report)	879,236,790	25%	219,809,198
June 30, 2006 (From 2006 report)	253,933,634	0%	0
			\$ (2,582,163,859)
9. Actuarial value of assets as of June 30), 2009 (Item 3 - Ite	m 8)	\$ 11,400,116,874
10 Detico for the sixtendent and			120.20/
Ratio of actuarial value to market value	ie		129.3%

Estimation of Yields

	June 30, 2009 (1)	June 30, 2008 (2)
A. Market value yield		
1. Beginning of year market assets	\$10,846,788,965	\$11,462,416,866
2. Investment income		
a. Change in assets (Item 3 - Item 1)	\$ (2,028,835,950)	\$ (615,627,901)
b. Cash Flow (excluding expenses)	(79,457,869)	(143,836,020)
c. Total investment income based on market value		
(Item 2a less Item 2b)	\$ (1,949,378,081)	\$ (471,791,881)
3. End of year market assets	\$ 8,817,953,015	\$10,846,788,965
4. Estimated dollar weighted market value yield		
(net of investment and administrative expenses)	(18.04%)	(4.14%)
B. Actuarial value yield		
1. Beginning of year actuarial assets	\$11,380,961,003	\$10,589,772,857
2. Investment income (based on asset valuation method)		
a. Change in assets (Item 3 - Item 1)	\$ 19,155,872	\$ 791,188,146
b. Cash Flow	(79,457,869)	(143,836,020)
c. Total investment income based on market value		
(Item 2a less Iterm 2b)	\$ 98,613,741	\$ 935,024,166
3. End of year actuarial assets	\$11,400,116,874	\$11,380,961,003
4. Estimated actuarial value yield		
(net of investment and administrative expenses)	0.87%	8.89%

Allocation of Cash and Investments

		June 30, 2009 (1)	June 30, 2008 (2)
1.	Cash and short-term equivalents	4.3%	6.0%
2.	Fixed income securities	33.1%	28.4%
3.	Equity securities	50.2%	53.8%
4.	Real estate	7.7%	7.8%
5.	Other	4.7%	4.0%
6.	Total investments	100.0%	100.0%

Total Experience Gain or Loss

		Item (1)	Police and Firefighters (2)	_	All Other Employees	 All Employees (4)
A.	Cal	culation of total actuarial gain or loss				
	1.	Unfunded actuarial accrued liability (UAAL), as of June 30, 2008	\$ 700,761,309	\$	4,467,346,741	\$ 5,168,108,050
	2.	Normal cost for the year (employer and employee)	\$ 70,138,399	\$	335,912,110	\$ 406,050,509
	3.	Less: contributions and assessments for the year	\$ (118,758,258)	\$	(644,397,562)	\$ (763,155,820)
	4.	Interest at 8 % a. On UAAL b. On normal cost c. On contributions d. Total	\$ 56,060,905 2,805,536 (4,750,330) 54,116,111	\$ 	357,387,739 13,436,484 (25,775,902) 345,048,321	\$ 413,448,644 16,242,020 (30,526,232) 399,164,432
	5.	Expected UAAL as of June 30, 2009 (Sum of Items 1 - 4)	\$ 706,257,561	\$	4,503,909,610	\$ 5,210,167,171
	6.	Actual UAAL as of June 30, 2009	\$ 900,441,300	\$	5,335,874,142	\$ 6,236,315,442
	7.	Total gain (loss) for the year (Item 5 - Item 6)	\$ (194,183,739)	\$	(831,964,532)	\$ (1,026,148,271)
B.	Sou	rce of gains and losses				
	8.	Asset gain (loss) for the year (Table 9b)	\$ (148,371,066)	\$	(660,313,759)	\$ (808,684,825)
	9.	Salary gain (loss) for the year	(56,722,949)		(176,374,644)	(233,097,593)
	10.	Other liability gain (loss) for the year	10,910,276		4,723,871	15,634,147
	11.	Change in benefit provisions	 			
	12.	Total gain (loss) for the year	\$ (194,183,739)	\$	(831,964,532)	\$ (1,026,148,271)

Investment Experience Gain or Loss

Item	 June 30, 2009	June 30, 2008
(1)	(2)	(3)
1. Actuarial assets, beginning of year	\$ 11,380,961,003	\$ 10,589,772,857
2. Total contributions during year	\$ 763,155,820	\$ 652,145,667
3. Benefits and refunds paid	\$ (842,613,689)	\$ (795,981,687)
4. Assumed net investment income at 8%		
a. Beginning of year assets	\$ 910,476,880	\$ 847,181,829
b. Contributions	30,526,233	26,085,827
c. Benefits and refunds paid	 (33,704,548)	(31,839,267)
d. Total	\$ 907,298,565	\$ 841,428,389
5. Expected actuarial assets, end of year		
(Sum of items 1 through 4)	\$ 12,208,801,699	\$ 11,287,365,226
6. Actual actuarial assets, end of year	\$ 11,400,116,874	\$ 11,380,961,003
7. Asset gain (loss) for year (Item 6 - Item 5)	\$ (808,684,825)	\$ 93,595,777
8. Asset gain (loss) as a percent of actuarial value of assets, end of year (Item 7 / Item 6)	(7.09%)	0.82%

Analysis of Changes in Valuation Results

		UAAL (\$ Millions)			Funding	Period	GASB ARC		
	Α	mount		Change	Years	Change	30-year Rate	Change	
		(1)		(2)	(3)	(4)	(5)	(6)	
								-	
1. 2008 Valuation	\$	5,168	\$	-	22.6 years		14.59%		
2. 2009 Expected valuation results using expected contributions, closed amortization period		5,205		37	21.6 years	-1.0 years	14.01%	-0.58%	
3. 2009 expected valuation results using actual contributions		5,210		5	21.6 years	0.0 years	14.02%	0.01%	
 2009 valuation results using expected assets, expected payroll, expected liabilities and actual salaries 		5,443		233	23.3 years	1.7 years	14.38%	0.36%	
 2009 valuation results using expected assets, expected payroll, and actual liabilities 		5,428		(16)	23.1 years	-0.2 years	14.35%	-0.03%	
 2009 valuation results using actual liabilities, actual assets, and expected payroll 		6,236		809	29.8 years	6.7 years	15.61%	1.26%	
 2009 valuation results using actual liabilities, actual assets, and actual payroll 		6,236		-	28.2 years	-1.6 years	15.33%	-0.28%	
8. 2009 valuation results, resetting to 30 year amortization		6,236		-	28.2 years	0.0 years	15.17%	-0.16%	

Employer Covered Payroll

	Police and	Firefighters	All Other	Employees	All Em	ployees
	March 31, 2009	March 31, 2008	March 31, 2009	March 31, 2008	March 31, 2009	March 31, 2008
	(1)	(2)	(3)	(4)	(5)	(6)
State of Hawaii	\$ 14,833,837	\$ 14,780,123	\$ 2,872,194,850	\$ 2,707,780,858	\$ 2,887,028,687	\$ 2,722,560,981
City & County of Honolulu	243,679,619	220,235,268	323,784,088	299,039,908	567,463,707	519,275,176
Board of Water Supply	-	-	35,039,714	32,140,596	35,039,714	32,140,596
County of Hawaii	56,536,632	55,116,193	87,310,271	83,338,706	143,846,903	138,454,899
County of Maui	48,609,820	45,209,412	87,458,819	81,033,207	136,068,639	126,242,619
County of Kauai	20,330,467	18,035,988	48,222,285	45,011,991	68,552,752	63,047,979
Total All Employers	\$ 383,990,375	\$ 353,376,984	\$ 3,454,010,027	\$ 3,248,345,266	\$ 3,838,000,402	\$ 3,601,722,250

Schedule of Funding Progress (As required by GASB #25)

Unfunded Actuarial Valuation Actuarial Value of Actuarial Accrued Accrued Liability Funded Ratio Annual Covered UAAL as % of Date Assets (AVA) Liability (AAL) (UAAL)(3) - (2)(2)/(3)Payroll Payroll (4)/(6) (1) (2)(3) (4) (5) (6) (7) June 30, 1997 7,268.5 8,001.9 \$ 2,019.3 36.3% \$ \$ 733.4 90.8% June 30, 1998 7,906.2 8,492.0 93.1% 2,135.9 27.4% 585.8 8,590.8 June 30, 1999 9,181.7 590.9 93.6% 2.186.5 27.0% June 30, 2000 9,204.7 9,698.9 494.2 94.9% 2,275.3 21.7% 9,516.0 10,506.9 991.0 90.6% 2,444.2 40.5% June 30, 2001 2,671.7 11,210.2 1,795.1 84.0% 67.2% June 30, 2002 9,415.2 9,074.0 11,952.1 2,878.1 75.9% 2,826.7 101.8% June 30, 2003 8,797.1 12,271.3 3,474.2 2,865.1 121.3% June 30, 2004 71.7% 133.9% June 30, 2005 8,914.8 4,071.1 68.6% 3,041.1 12,986.0 158.5% 5,132.0 3,238.3 June 30, 2006 * 9,529.4 14,661.4 65.0% 67.5% 3,507.0 145.6% June 30, 2007 ** 10,589.8 15,696.5 5,106.8 136.6% June 30, 2008 11,381.0 16,549.1 5,168.1 68.8% 3,782.1

6,236.3

Note: Dollar amounts in millions.

June 30, 2009

11,400.1

17,636.4

154.7%

4,030.1

64.6%

^{*} Assumption changes and new Hybrid Plan effective June 30, 2006.

^{**} New salary scale assumption effective June 30, 2007.

Schedule of Employer Contributions (As required by GASB #25)

Fiscal Year	Annual Required Contribution	Actual Contribution	Percentage Contributed
(1)	(2)	(3)	(4)
1997	\$ 323,188	\$ 322,121	99.7%
1998	307,680	310,627	101.0%
1999	185,387	154,470	83.3%
2000	172,255	22,392	13.0%
2001	164,397	8,132	4.9%
2002	167,459	167,459	100.0%
2003	190,586	190,586	100.0%
2004	235,686	235,686	100.0%
2005	328,717	328,717	100.0%
2006*	423,446	423,446	100.0%
2007	476,754	454,494	95.3%
2008	510,727	488,770	95.7%
2009	526,538	578,635	109.9%

Note: Dollar amounts in thousands

^{*} Effective July 1, 2005 the required contributions are based on contribution rates and not specific dollar amounts.

June 30, 2009

Notes to Required Supplementary Information (as required by GASB #25)

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the dates indicated. Additional information as of the latest actuarial valuation follows:

Actuarial cost method	Entry Age Normal
Amortization method	Level percent, open

Remaining amortization period as of June 30, 2009 28.2 years

Asset valuation method 4-year smoothed market

Actuarial assumptions:

Valuation date

Investment rate of return (set by statute)*

8.00%

Projected salary increases *

17.75% to 4.00%

*Includes inflation at

3.00%

Cost-of-living adjustments (COLAs)** 2.50%

^{**}COLAs are not compounded, they are based on original pension amount

Membership Data

		Police and	Firef	ighters	All Other	Emp	loyees	All Em	ploye	ees
	J	June 30, 2009		June 30, 2008	June 30, 2009		June 30, 2008	 June 30, 2009		June 30, 2008
		(1)		(2)	(3)		(4)	(5)		(6)
1. Active members										
a. Number		4,955		4,915	62,957		61,674	67,912		66,589
 Total payroll 	\$	383,990,376	\$	353,376,984	\$ 3,454,010,026	\$	3,248,345,266	\$ 3,838,000,402	\$	3,601,722,250
c. Average salary	\$	77,496		71,898	\$ 54,863	\$	52,670	\$ 56,514	\$	54,089
d. Average age		41.0		40.8	47.2		47.1	46.8		46.6
e. Average service		13.6		13.3	12.8		12.9	12.9		12.9
2. Inactive members										
a. Number		242		198	5,774		5,649	6,016		5,847
b. Total annual deferred benefits	\$	3,783,554	\$	2,968,626	\$ 41,172,623		41,090,755	\$ 44,956,177	\$	44,059,381
c. Average annual deferred benefit	\$	15,635	\$	14,993	\$ 7,131		7,274	\$ 7,473	\$	7,535
3. Service retirees										
a. Number		2,794		2,756	30,149		29,685	32,943		32,441
b. Total annual benefits	\$	109,398,947	\$	104,209,828	\$ 644,026,292		617,724,664	\$ 753,425,239	\$	721,934,492
c. Average annual benefit	\$	39,155	\$	37,812	\$ 21,361		20,809	\$ 22,871	\$	22,254
4. Disabled retirees										
a. Number		168		169	1,318		1,283	1,486		1,452
b. Total annual benefits	\$	2,693,142	\$	2,633,489	\$ 12,925,859		12,070,600	\$ 15,619,001	\$	14,704,089
c. Average annual benefit	\$	16,031	\$	15,583	\$ 9,807		9,408	\$ 10,511	\$	10,127
-		,		,						
5. Beneficiaries										
a. Number		190		175	2,380		2,192	2,570		2,367
b. Total annual benefits	\$	5,018,325	\$	4,381,336	\$ 29,182,882	\$	25,795,764	\$ 34,201,207	\$	30,177,100
c. Average annual benefit	\$	26,412	\$	25,036	\$ 12,262		11,768	\$ 13,308	\$	12,749

Historical Summary of Active Member Data

	Active 1	Members	Covered	Payroll	Average	Salary		
Year Ending		Percent	Amount in	Percent		Percent	Average	Average
June 30,	Number	Increase	\$ Millions	Increase	\$ Amount	Increase	Age	Service
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1992	55,410	3.4%	\$ 1,828.7	9.1%	\$ 33,003	5.5%		
1993	57,467	3.7%	1,976.1	8.1%	34,387	4.2%		
1994	58,890	2.5%	2,029.9	2.7%	34,469	0.2%		
1995	58,498	-0.7%	2,083.0	2.6%	35,608	3.3%		
1996	56,985	-2.6%	1,990.1	-4.5%	34,923	-1.9%		
1997	57,044	0.1%	2,019.3	1.5%	35,399	1.4%		
1998	57,797	1.3%	2,135.9	5.8%	36,955	4.4%		
1999	58,387	0.9%	2,186.5	2.4%	37,448	1.3%		
2000	59,191	1.4%	2,275.3	4.1%	38,440	2.6%	45.5	13.0
2001	59,992	1.4%	2,350.2	3.3%	39,175	1.9%	45.6	13.3
2002	62,208	3.7%	2,568.7	9.3%	41,292	5.4%	45.8	13.2
2003	62,292	0.1%	2,718.4	5.8%	43,640	5.7%	46.0	13.1
2004	62,573	0.5%	2,755.5	1.4%	44,037	0.9%	46.0	13.0
2005	63,073	0.8%	2,924.5	6.1%	46,368	5.3%	46.3	13.0
2006	64,069	1.6%	3,113.7	6.5%	48,599	4.8%	46.4	13.0
2007	65,251	1.8%	3,340.5	7.3%	51,194	5.3%	46.5	13.0
2008	66,589	2.1%	3,601.7	7.8%	54,089	5.7%	46.6	12.9
2009	67,912	2.0%	\$ 3,838.0	6.6%	\$ 56,514	4.5%	46.8	12.9

History of Cash Flow

		Contributions	<u> </u>		Expe	enditures		External		External Cash
Year Ending				Benefit		Administrative		Cash Flow	Market Value	Flow as Percent
June 30,	Employee	Employer	Total	Payments	Refunds	Expenses 1	Total	for the Year ²	of Assets	of Market Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2000	\$ 57.4	\$ 22.4	\$ 79.8	\$ (471.2)	\$(47.5)	\$ (4.2)	\$ (522.9)	\$ (443.1)	\$ 9,931.8	(4.5%)
2001	54.5	8.1	62.6	(503.3)	(45.5)	(4.9)	(553.7)	(491.1)	8,772.0	(5.6%)
2002	55.4	167.5	222.9	(530.4)	(38.4)	(5.8)	(574.6)	(351.7)	7,907.0	(4.4%)
2003	57.2	190.6	247.8	(569.2)	(36.2)	(6.8)	(612.2)	(364.4)	7,687.2	(4.7%)
2004	55.1	235.7	290.8	(636.2)	(2.3)	(10.5)	(649.0)	(358.2)	8,565.4	(4.2%)
2005	57.1	328.7	385.8	(676.3)	(3.4)	(7.3)	(687.0)	(301.2)	9,195.9	(3.3%)
2006	56.3	423.4	479.7	(720.5)	(2.5)	(8.5)	(731.5)	(251.8)	9,932.4	(2.5%)
2007	144.7	454.5	599.2	(761.0)	(3.5)	(9.6)	(774.1)	(174.9)	11,434.3	(1.5%)
2008	163.4	488.8	652.2	(792.3)	(3.7)	(10.7)	(806.7)	(154.5)	10,846.8	(1.4%)
2009	\$ 184.5	\$ 578.6	\$763.1	\$ (839.1)	\$ (3.5)	\$ (12.3)	\$ (854.9)	\$ (91.8)	\$ 8,818.0	(1.0%)

Amounts in \$ millions

¹ Excludes investment expenses

² Column (9) = Column (4) + Column (8)

Solvency Test

		June 30, 2009 (1)	June 30, 2008 (2)
1.	Actuarial accrued liability (AAL)		
	a. Active member contributions	\$ 1,168,903,589	\$ 1,029,521,498
	b. Retirees and beneficiaries	8,584,029,950	8,230,338,790
	c. Active and inactive members	7,883,498,777	7,289,208,766
	d. Total	\$ 17,636,432,316	\$ 16,549,069,054
2.	Actuarial value of assets	\$ 11,400,116,874	\$ 11,380,961,003
3.	Cumulative portion of AAL covered		
	a. Active member contributions	100%	100%
	b. Retirees and beneficiaries	100%	100%
	c. Active and inactive members	21%	29%

Highlights of Last Five Annual Actuarial Valuations 2005 through 2009

Item -		Valuation Date: June 30								
		2005		2006		2007	I	2008		2009
Number of active members		63,073		64,069		65,251	١	66,589		67,912
Number of inactive members		4,938		5,164		5,554	-	5,847		6,016
Number of pensioners		31,344		32,199		33,117	-	33,893		34,429
Number of beneficiaries		1,957		2,105		2,207	-	2,367		2,570
Average monthly contributory plan pension amount	\$	1,717	\$	1,792		\$ 1,869		\$ 1,941		\$ 2,019
Average monthly noncontributory plan pension amount	\$	1,305	\$	1,335		\$ 1,359	-	\$ 1,388		\$ 1,421
Average monthly hybrid plan pension amount		n/a		n/a		\$ 1,453	-	\$ 1,603		\$ 1,602
Average monthly beneficiary amount	\$	966	\$	989		\$ 1,025	ı	\$ 1,062		\$ 1,109
Total actuarial value of assets (\$millions)	\$	8,915	\$	9,529		\$ 10,590	-	\$ 11,381		\$ 11,400
Unfunded actuarial accrued liability (\$millions)	\$	4,071.1	\$	5,132.0		\$ 5,106.8	Į	\$ 5,168.1		\$ 6,236.3
Funding Period (in years) (1)		25.7		35.2		25.5	\perp	22.6		28.2
Item		Fiscal Year								
(Dollar amounts in millions)	20	004-2005	20	05-2006		2006-2007		2007-2008		2008-2009
Total calculated appropriations	\$	322.8	\$	423.4	(2)	\$ 454.5 ⁽³	2)	\$ 488.8	(2)	\$ 578.6 ⁽²⁾
EIR Program appropriations		5.9		-		-	1	-		-
Excess investment earnings credit										
Net employer appropriations	\$	328.7	\$	423.4	(2)	\$ 454.5	2)	\$ 488.8	(2)	\$ 578.6 ⁽²⁾

⁽¹⁾ Beginning with the 2004 valuation, the purpose of the valuation is to determine the remaining amortization period based on the statutory contribution rates. Prior valuations determined the dollar amount needed to amortize the UAAL over a fixed period of time.

⁽²⁾ Beginning with the fiscal year beginning July 1, 2005 a dollar contribution amount is not determined under the provisions of Act 181/2004. Instead a fixed percentage of payroll is contributed (15.75% for Police and Fire, 13.75% for All Others). Beginning July 1, 2008, the percentages will increase to 19.70% for Police and Fire, 15.00% for All Others.

Summary of Benefit Provisions

	Noncontributory Plan	Contributory Plan	Hybrid Plan
Employee Contributions	No employee contributions	7.8% of salary	6.0% of salary
Normal Retirement			
Eligibility	Age 62 and 10 years credited service; or	Age 55 and 5 years credited service	Age 62 and 5 years credited service; or
	Age 55 and 30 years credited service		Age 55 and 30 years credited service
Benefit	1 1/4% of average final compensation times years of credited service (Average final compensation or AFC is an average of the highest salaries during any three years of credited service, excluding any salary paid in lieu of vacation or if ERS membership occurred prior to 1/1/71, AFC may be an average of the highest salaries during any five years of credited service including any salary paid in lieu of vacation.)	2% of average final compensation times years of credited service (Average final compensation or AFC is an average of the highest salaries during any three years of credited service, excluding any salary paid in lieu of vacation or if ERS membership occurred prior to 1/1/71, AFC may be an average of the highest salaries during any five years of credited service including any salary paid in lieu of vacation.)	2% of average final compensation times years of credited service, split formula for unconverted noncontributory service at 1 ¼% (Average final compensation or AFC is an average of the highest salaries during any three years of credited service, excluding any salary paid in lieu of vacation or if ERS membership occurred prior to 1/1/71, AFC may be an average of the highest salaries during any five years of credited service including any salary paid in lieu of vacation.)

	Noncontributory Plan	Contributory Plan	Hybrid Plan
Early Retirement			
Eligibility	Age 55 and 20 years credited service	Any age and 25 years credited service	Age 55 with 20 years credited service
Benefit	Maximum allowance reduced 6% per year under age 62	Maximum allowance reduced 5% per year under age 55 plus 4% per year under age 50	Maximum allowance reduced 5% for each year under age 62
Deferred Vesting			
Eligibility	10 years credited service	5 years credited service and contributions left in the ERS	5 years credited service and contributions left in the ERS
Benefit	Accrued maximum allowance payable at age 65	Accrued maximum allowance payable at age 55	Accrued maximum allowance payable at age 62
Annuity Savings Account			
Interest	Not applicable	4.5% per annum on employee contributions and accrued interest	4.5% per annum on employee contributions and accrued interest
Eligibility	Not applicable	Requests refund and forfeits future retirement benefit	Requests refund and forfeits future retirement benefit
Benefit			
- Terminates with less than 5 years credited service	Not applicable	Return of member's contributions and accrued interest	Return of member's contributions and accrued interest
- Terminates with 5 or more years of credited service	Not applicable	Return of member's contributions and accrued interest	Return of member's Hybrid Plan contributions and accrued interest, both times 150%. Return of non-Hybrid balance transfers and accrued interest.

	Noncontributory Plan	Contributory Plan	Hybrid Plan	
Ordinary Disability Eligibility	10 years credited service	10 years credited service	10 years credited service	
Benefit	1 1/4% of AFC times years of credited service, unreduced for age	1 3/4% of AFC times years of credited service, unreduced for age	2% of AFC times years of credited service, unreduced for age, split	
	(Minimum is 12.5% AFC)	(Minimum is 30% AFC)	formula for unconverted noncontributory service at 1 ¼% (Minimum is 30% AFC)	
Service-Connected Disability				
Eligibility	Any age or credited service	Any age or credited service	Any age or credited service	
Benefit	Accrued maximum allowance, but not less than 15% AFC.	Totally disabled: lifetime pension of 66 2/3% AFC plus annuity.	Lifetime pension of 35% of AFC plus refund of member's contributions and accrued interest.	
	For accidents that occur on or after July 1, 2004, lifetime pension of 35% of AFC.	Occupationally disabled: same benefit (66 2/3% pension plus annuity) paid for 3 years and then pension is reduced to 33 1/3% AFC if not totally disabled.		
		For accidents on or after July 7, 1998, lifetime pension of 50% of AFC plus refund of member's contributions and accrued interest.	49	

	Noncontributory Plan	Contributory Plan	Hybrid Plan
Ordinary Death Eligibility	Active employee at time of death with at least 10 years of credited service	Active employee at time of death with at least 1 year of service	Active employee at time of death with at least 5 years of service
Benefit	Surviving spouse/reciprocal beneficiary and dependent children receive a benefit equal to a percentage of member's accrued maximum allowance unreduced for age; or	Lump sum payment of member's contributions and accrued interest plus a percentage of the salary earned in the 12 months preceding death; or	Return of member's Hybrid Plan contributions and accrued interest (both times 150%) plus return of non-Hybrid balance transfers and accrued interest; or
	Option B (100% Joint and Survivor) benefit for surviving spouse if member was eligible for retirement at time of death and a percentage of member's accrued maximum allowance unreduced for age for the dependent children	Option 3 (50% Joint and Survivor) benefit if member was not eligible for retirement at the time of death, credited with 10 years of service, and one beneficiary designated (benefit calculated using the ordinary disability retirement formula); or	Option 3 (50% Joint Survivor) lifetime benefit if credited with at least 10 years of service and one beneficiary designated; or Option 2 (100% Joint Survivor) lifetime monthly benefit if member was eligible for service retirement at time of death, and one beneficiary
		Option 2 (100% Joint and Survivor) benefit if member was eligible for retirement at the time of death and one beneficiary designated	designated

	Noncontributory Plan	Contributory Plan	Hybrid Plan
Service-Connected Death Eligibility	Any age or service	Any age or service	Any age or service
Benefit	Surviving spouse/reciprocal beneficiary receives pension equal to 30% of AFC (until remarriage or reentry into a new reciprocal beneficiary relationship); additional benefits payable to surviving dependent children (up to age 18)	Lump sum payment of member's contributions and accrued interest, plus pension of 50% AFC to surviving spouse/reciprocal beneficiary (until remarriage or reentry into a new reciprocal beneficiary relationship);	Lump sum payment of member's contributions and accrued interest, plus pension of 50% AFC to surviving spouse/reciprocal beneficiary (until remarriage or reentry into a new reciprocal beneficiary relationship);
	If there is no spouse/reciprocal beneficiary or dependent children, no benefit is payable.	If there is no surviving spouse or reciprocal beneficiary, surviving dependent children (up to age 18) or dependent parents shall be eligible for a monthly benefit.	If there is no surviving spouse or reciprocal beneficiary, surviving dependent children (up to age 18) or dependent parents shall be eligible for a monthly benefit.
		If there is no spouse/reciprocal beneficiary or dependent children/parents, the ordinary death benefit shall be payable to the designated beneficiary.	If there is no spouse/reciprocal beneficiary or dependent children/parents, the ordinary death benefit shall be payable to the designated beneficiary.

The plan provisions summarized above apply to teachers and most State and County employees. Special provisions applicable to other groups of employees are outlined below:

- A. Police officers, firefighters, investigators of the Department of the Prosecuting Attorney and the Attorney General, narcotic enforcement investigators, and public safety investigators contribute 12.2% of their monthly salary to the ERS instead of 7.8%. These members may retire at age 55 with 5 years of credited service or at any age with 25 years of credited service and receive a retirement benefit of 2 ½% of average final compensation (AFC) for each year of such service up to a maximum of 80% AFC, provided the last 5 years of credited service in any of these occupations.
- B. Judges, elected officials, and legislative officers may retire at age 55 with at least 5 years of credited service, or at any age with at least 10 years of credited service and receive a pension of 3 ½% of AFC for each year of such service plus an annuity from their contributions allocable to the period of such service. This benefit cannot exceed 75% of the AFC. Judges hired after June 30, 1999 require 25 years of credited service in order to retire before age 55.
- C. Sewer workers in specified classifications, water safety officers, and emergency medical technicians (EMTs) may retire at any age if they are credited with 25 years of such service with the last 5 or more years in these occupations. (The 25-year feature is phased in through 7/1/2008 for EMTs.)
- D. Sewer workers in specified classifications, water safety officers, and emergency medical technicians (EMTs) that transfer to the Hybrid Plan contribute 9.75% of their monthly salary to the ERS. These members may retire at age 62 with 5 years of credited service or at any age if they are credited with 25 years of such service with the last 5 or more years in these occupations.

Post Retirement Benefit

Each retiree's original retirement allowance is increased by $2\frac{1}{2}\%$ on each July 1 beginning the calendar year after retirement. This cumulative benefit is not compounded and increased each year by another $2\frac{1}{2}\%$ of the original retirement allowance without a ceiling (i.e., 21.2% of the original retirement allowance the first year, 5% the second year, $7\frac{1}{2}\%$ the third year, etc.).

Retirement Options

Contributory and Hybrid Plans

Maximum Allowance: The member receives a lifetime maximum allowance and at death the difference between the value of the member's contributions at the time of retirement and the retirement allowance paid prior to death is paid to the designated beneficiary(ies) or estate.

Option One: The member receives a reduced lifetime allowance based on age and at death, the difference between the initial insurance reserve and the retirement allowance paid prior to death is paid to the designated beneficiary(ies) or estate.

Option Two (100% Joint and Survivor with Pop-Up): The member receives a reduced lifetime allowance based on ages of both the member and the sole beneficiary and at death of the member, the same allowance is paid to the designated beneficiary for life. Should the designated beneficiary predecease the retiree, another beneficiary cannot be named, the benefit will revert back to the Maximum Allowance, and all payments will cease at the retiree's death.

Option Three (50% Joint and Survivor with Pop-Up): This plan is similar to Option Two. The member receives a reduced lifetime allowance which is higher than Option Two and is based on ages of both the member and the sole beneficiary; however, at death of the member one-half of the allowance is paid to the designated beneficiary for life. Like Option Two, should the designated beneficiary predecease the retiree, another beneficiary cannot be named, the benefit will revert back to the Maximum Allowance, and all payments will cease at the retiree's death.

Option Four: This option allows the member to devise a plan that will provide a benefit according to the member's specifications. It requires certification by the Actuary and approval of the Board of Trustees. The following Option Four plans have been approved:

Combination of Options Five and Maximum Allowance: The member receives a reduced lifetime allowance and is allowed to withdraw the pre-1987 nontaxable contribution, 50% of accumulated contributions, or 75% of accumulated contributions (Hybrid Plan members are not allowed the 75% option); at death, the difference between the value of the member's contributions at the time of retirement and the retirement allowance paid prior to death is paid to the designated beneficiary(ies) or estate.

Combination of Options Five and One: The member receives a reduced lifetime allowance and is allowed to withdraw the pre-1987 nontaxable contributions, 50% of accumulated contributions, or 75% of accumulated contributions (Hybrid Plan members are not allowed the 75% option); at death, the difference between the initial insurance reserve and the retirement allowance paid prior to death is paid to the designated beneficiary(ies) or estate.

Combination of Options Five and Two: The member receives a reduced lifetime allowance based on ages of both member and the sole beneficiary, and is allowed to withdraw the pre-1987 nontaxable contributions, 50% of accumulated contributions, or 75% of accumulated contributions (Hybrid Plan members are not allowed the 75% option); at death of the member, the same allowance is paid to the designated beneficiary for life. As in the case of Option Two, should the designated beneficiary predecease the retiree, another beneficiary cannot be named, the benefit will revert back to the Maximum Allowance (as adjusted for the contribution withdrawal), and all payments will cease at the retiree's death.

Combination of Options Five and Three: The member receives a reduced lifetime allowance based on ages of both member and the sole beneficiary, and is allowed to withdraw the pre-1987 nontaxable contributions, 50% of accumulated contributions, or 75% of accumulated contributions (Hybrid Plan members are not allowed the 75% option); at death of the member, one-half of the allowance is paid to the designated beneficiary for life. As in the case of Option Three, should the designated beneficiary predecease the retiree, another beneficiary cannot be named, the benefit will revert back to the Maximum Allowance (as adjusted for the contribution withdrawal), and all payments will cease at the retiree's death.

Option Five: The member receives a reduced lifetime allowance and is allowed to withdraw all accumulated contributions; at death, the retirant is entitled to the pension for the entire month that death occurs.

Option Four and Option Five are restricted to those members with at least ten years of credited service excluding unused sick leave credit.

Regardless of the option selected, should death occur during the first year of retirement, the designated beneficiary may elect to receive benefits as if death had occurred immediately prior to retirement in lieu of the death benefits described above.

Noncontributory Plan

Maximum Allowance: The member receives a lifetime pension and at death, the retirant is entitled to the pension for the entire month that death occurs.

Option A (50% Joint and Survivor with Pop-Up): The member receives a reduce lifetime pension and at death of the member, one-half of the pension is paid to the sole designated beneficiary for life. Should the designated beneficiary predecease the retiree, another beneficiary cannot be named, the benefit will revert back to the Maximum Allowance, and all payments will cease at the retiree's death.

Option B (100% Joint and Survivor with Pop-up): The member receives a reduce lifetime pension and at death of the member, the same pension is paid to the sole designated beneficiary for life. Like Option A, should the designated beneficiary predecease the retiree, another beneficiary cannot be named, the benefit will revert back to the Maximum Allowance, and all payments will cease at the retiree's death.

Option C (Ten-Year Guarantee): The member receives a reduce lifetime pension. Should death occur within two years of retirement, the same pension will be paid to the designated beneficiary for the balance of the ten-year period. Should the designated beneficiary predecease the retiree, another beneficiary can be named.

Regardless of the option selected, should death occur during the first year of retirement, the designated beneficiary may elect to receive benefits as if death had occurred immediately prior to retirement in lieu of the death benefits described above.

Summary of Plan Changes

Act 65, effective July 1 1999

Requires judges who enter or re-enter service after June 30, 1999 to be at least 55 years old and five years of service or have 25 years of service to rehire.

Act 100, effective June 30, 1999

Uses actuarial investment earnings in excess of a ten percent (10%) actuarial investment yield rate to reduce the employer's contribution requirements by \$147.0 million and \$50.6 million for fiscal years ending June 30, 2000 and 2001, respectively.

Act 284, effective June 30, 2001

Provide an increase in pension benefits for current retirees with military service who retired prior to July 2, 1989. A retirant who rendered honorable active military service could be granted up to 4 years of military service credits based upon his/her years of credited service under the ERS, not to exceed his/her actual years of military service. The years of military service credits granted are based on the following schedule:

- 0 years for retirants with less than 8 years of credited service
- Up to 2 years of retirants with 8 years or more of credited service
- Up to 3 years of retirants with 20 years or more of credited service
- Up to 4 years of retirants with 25 years or more of credited service

For each year of military service credits granted on the schedule above, the retirant will be provided a \$36.00 increase in his/her monthly pension or retirement allowance.

Act 199, effective June 30, 2003

Emergency Medical Technicians (EMTs) are allowed to retire with an unreduced benefit after 25 years of service regardless of age, of which the last five or more years prior to retirement must be in that capacity. This feature is phased in one year at a time, July 1, 2003 through June 30, 2008.

Act 177, effective July 1, 2004

This Act allows police officers with a permanent service-connected disability to retain the 2-1/2% benefit multiplier for each year of service as a police officer.

Act 179, effective July 1, 2004

This Act increased the Noncontributory service-connected disability formula to 35% of average final compensation. The Act also changed the methodology for crediting interest on contributions for terminated members so that interest continues to accrue until the date of refund. The Act adds a "pop-up" feature to the joint & survivor benefit options if the beneficiary pre-deceases the retiree.

This Act also created the new Hybrid Plan which became effective July 1, 2006.

Act 181, effective July 1, 2004

This Act establishes fixed employer contribution rates as a percentage of compensation effective July 1, 2005. Employers will contribute 15.75% for their police officers and firefighters and 13.75% for other employees.

Act 183, effective July 1, 2004

This Act amends the ERS statutes to comply with the federal tax limits on compensation retroactive to July 1, 1996.

Act 56, effective December 1, 2004

This Act amends the ERS statutes to allow the automatic cost-of-living-adjustment to be reflected when determining actuarial equivalent optional forms of payment.

Act 256, effective July 5, 2007

Legislation was enacted to remove the statutory salary increase assumption from the statutes and to grant the System's Board of Trustees the authority to set the salary increase assumption. As a result of this legislation, the Board has adopted effective with this valuation the salary increase assumption recommended by GRS as a result of the Experience Study performed in 2006.

Legislation was also enacted to increase the employer contribution rates to the System. Effective July 1, 2008, the employer contribution rate for Police and Fire employees will increase from 15.75% to 19.70% and the rate for All Other employees will increase from 13.75% to 15.00%.

Summary of Actuarial Methods and Assumptions (Adopted on August 14, 2006 and on June 30, 2007)

I. Valuation Date

The valuation date is June 30th of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

The funding period required to amortize the unfunded actuarial accrued liability (UAAL) is determined using the Entry Age Actuarial Cost Method. This method assigns the plan's total unfunded liabilities (the actuarial present value of future benefits less the actuarial value of assets) to various periods. The unfunded actuarial accrued liability is assigned to years prior to the valuation, and the normal cost is assigned to the year following the valuation. The remaining costs are assigned to future years.

The normal cost is the level percentage of payroll contribution required to accumulate the needed funds to pay all expected benefits. This percentage of payroll is then applied to the total compensation for the prior year for all active members, and is then adjusted for the payroll growth assumption.

The actuarial accrued liability is the difference between the total present value of future benefits and the actuarial present value of future normal costs. The unfunded actuarial accrued liability (UAAL) is the excess of the actuarial accrued liability over the actuarial value of assets.

Since the State statutes governing the System establish the current employee and Employer contribution rates, the actuarial valuation determines the number of years required to amortize (or fund) the UAAL on a level percentage of payroll basis, taking into account the payroll growth assumption and the normal cost expressed as a percent of pay.

Because of this amortization procedure, any change in the unfunded actuarial accrued liability due to (i) actuarial gains and losses, (ii) changes in actuarial assumptions, or (iii) amendments, affects the funding period.

III. Funding of Unfunded Actuarial Accrued Liability

All of the following concepts will be discussed on an aggregate basis with regards to the contributory, the Hybrid, and the noncontributory plans. The total normal cost for benefits provided by ERS is 12.49% of payroll, which is 9.61% of payroll less than the total contributions required by Law (15.46% from employers plus 6.64% in the aggregate from employees). Since only 5.85% of the employer's 15.46% contribution is required to meet the normal cost (6.64% comes from the employee contribution), it is intended that the remaining 9.91% of payroll will be used to amortize any unfunded actuarial accrued liabilities over a period of years in the future, assuming that total payroll increases by 3.50% per year.

IV. Actuarial Value of Assets

The actuarial value of assets is equal to the market value, adjusted for a four-year phase in of actual investment return in excess of expected investment return. The actual return is calculated net of investment and administrative expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

V. <u>Actuarial Assumptions</u>

A. Economic Assumptions

- 1. Investment return: 8% per year, compounded annually, composed of an assumed 3.00% inflation rate and a 5.00% net real rate of return. (Set by legislative action.)
- 2. Payroll growth rate: 3.50% per annum.
- 3. Salary increase rate: As shown below

	Gene	ral Employees		Teachers
		Total Annual Rate		Total Annual Rate
		of Increase		of Increase
		Including 3.00%		Including 3.00%
		Inflation		Inflation
	Service-	Component and	Service-	Component and
Years of	related	1.00% General	related	1. 50% General
Service	Component	Increase Rate	Component	Increase Rate
(1)	(2)	(3)	(2)	(3)
- 6				
0	4.00%	8.00%	4.00%	8.50%
1	2.50%	6.50%	3.00%	7.50%
2	1.50%	5.50%	2.50%	7.00%
2 3	1.00%	5.00%	2.00%	6.50%
4 5	0.75%	4.75%	1.50%	6.00%
	0.50%	4.50%	1.00%	5.50%
6	0.50%	4.50%	1.00%	5.50%
7	0.25%	4.25%	0.75%	5.25%
8	0.25%	4.25%	0.75%	5.25%
9	0.25%	4.25%	0.75%	5.25%
10	0.25%	4.25%	0.50%	5.00%
11	0.25%	4.25%	0.50%	5.00%
12	0.25%	4.25%	0.50%	5.00%
13	0.00%	4.00%	0.50%	5.00%
14	0.00%	4.00%	0.50%	5.00%
15 or				
more	0.00%	4.00%	0.00%	4.50%

	Police & Firefighters			
Years of Service	Service- related Component	Total Annual Rate of Increase Including 3.00% Inflation Component and 1.75% General Increase Rate		
(1)	(2)	(3)		
0 1 2 or more	13.00% 11.00% 0.00%	17.75% 15.75% 4.75%		

Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period between the valuation date and the first anniversary of the valuation date is equal to the reported pay for the prior year, annualized if necessary, and then increased by the salary increase assumption.

B. <u>Demographic Assumptions</u>

1. Post-Retirement Mortality rates

General Employees

- a. Healthy males Client Specific Table for males, 90% multiplier.
- b. Healthy females Client Specific Table for females, 90% multiplier.
- c. Disabled males 1994 US Group Annuity Mortality Static Table for males set forward ten years.
- d. Disabled females 1994 US Group Annuity Mortality Static Table for females set forward eleven years.

Teachers

- a. Healthy males Client Specific Table for male teachers, 75% multiplier.
- b. Healthy females Client Specific Table for female teachers, 65% multiplier.
- c. Disabled males 1994 US Group Annuity Mortality Static Table for males set forward four years.
- d. Disabled females 1994 US Group Annuity Mortality Static Table for females set forward six years.

Police and Fire

- a. Healthy males 1994 US Group Annuity Mortality Static Table for males, 85% multiplier.
- b. Healthy females 1994 US Group Annuity Mortality Static Table for females, 85% multiplier.
- c. Disabled males 1994 US Group Annuity Mortality Static Table for males set forward five years.
- d. Disabled females 1994 US Group Annuity Mortality Static Table for females set forward five years.

2. Pre-retirement Mortality Rates

The male pre-retirement mortality rates are multiples of a table that has the RP-2000 Male Employee rates for ages 1 to 70 and the RP-2000 Combined Male rates for ages above 70. Similarly, the female pre-retirement rates are multiples of a table that has the RP-2000 Female Employee rates for ages 1 to 70 and the RP-2000 Combined Female rates for ages above 70. The following table shows the factors that are used in conjunction with the tables described above to derive the final ordinary and accidental death rates.

	General Employees	Teachers	Police and Fire
Туре	Male and Females	Male and Females	Male and Females
Ordinary	40%	35%	15%
Accidental	10%	5%	35%

3. Disability rates – The assumed total disability rates for employees covered by the contributory plan, hybrid plan and the noncontributory plan at select ages are multiples of the client specific table that follows:

Age	Male & Female
25	0.000%
30	0.001%
35	0.008%
40	0.026%
45	0.064%
50	0.146%
55	0.198%
60	0.217%

Note: The disability rates project the percentage of employees at each age that is assumed to become disabled before retiring. Multiples of the rates above are assumed to be ordinary disability or accidental disability, and vary by employee group as follows:

	General Employees		Teachers		Police and Fire	
Type	Male	Female	Male	Female	Male & Female	
Ordinary	150%	95%	40%	40%	70%	
Accidental	20%	5%	5%	5%	35%	

4. Termination Rates - Separate male and female rates, based on both age and service, developed from 2006 Experience Study. Rates reflect terminations for causes other than death, disability or retirement. Employees eligible for retirement are assumed to have no probability of termination. Sample rates are shown below:

For first 6 years of service

	Expecte	d Terminat	ions per 100	0 Lives (Ma	ale Membe	ers)	
	Years of Service						
Group	0	1	2	3	4	5	
General							
Employees	15.5	12.5	10.5	9.0	7.0	6.5	
Teachers	32.0	22.0	14.0	12.0	10.0	9.0	
Police & Fire	11.0	7.5	4.0	4.0	4.0	4.0	
	Expected Terminations per 100 Lives (Female Member						
	Years of Service						
Group	0	1	2	3	4	5	
General Employees	18.5	16.5	12.5	10.0	8.0	7.0	
	18.5	10.3	12.3	10.0	8.0	7.0	
Teachers	28.0	22.0	15.0	14.0	11.0	8.0	
Police & Fire	11.0	7.5	4.0	4.0	4.0	4.0	

After first 6 years of service

Expected Terminations per 100 Lives

	Years of Service					
Age	General Employees Males	General Employees Females	Teachers Males	Teachers Females	Police & Fire	
(1)	(2)	(3)	(4)	(5)	(6)	
25	6.08	7.38	4.35	6.50	2.00	
30	5.04	4.82	4.12	5.80	2.82	
35	4.03	3.75	3.80	4.41	2.50	
40	3.36	3.02	3.38	3.32	1.66	
45	2.81	2.49	2.57	2.65	0.94	
50	2.58	2.62	2.56	2.60	0.66	
55	3.67	3.92	4.53	4.97	0.00	
60	4.00	4.24	5.59	4.66	0.00	

5. Retirement rates - Separate male and female rates, based on age, developed from the 2006 Experience Study. Sample rates are shown below:

Contributory Plan and Hybrid Plan

Expected Retirements per 100 Lives

	General Employees		Tea	chers	Police and Fire
Age	Male	Female	Male	Female	Male & Female
45	1	0	0	0	18
46	1	0	0	0	18
47	1	0	0	. 0	18
48	1	0	0	0	18
49	1	0	0	0	18
50	2	1	1	0	18
51	2	1	1	0	18
52	2	1	1	1	18
53	2	1	4	1	18
54	6	5	7	4	25
55	20	20	20	22	25
56	15	10	15	18	22
57	15	10	15	18	22
58	15	10	15	18	22
59	15	12	15	18	22
60	15	12	14	18	30
61	18	15	14	18	30
62	35	35	14	25	30
63	20	25	14	18	30
64	20	20	14	18	30
65	35	45	25	25	100
66	25	25	25	25	100
67	30	30	25	30	100
68	25	40	25	40	100
69	25	40	25	40	100
70	25	25	25	25	100
71	25	25	25	25	100
72	25	25	25	25	100
73	25	25	25	25	100
74	25	25	25	25	100
75	100	100	100	100	100

Noncontributory Plan

Expected Retirements per 100 Lives

	General Employees		Teachers	
Age	Male	Female	Male	Female
45	0	0	0	0
46	0	0	0	0
47	0	0	0	0
48	0	0	0	0
49	0	0	0	0
50	0	0	. 0	0
51	0	0	0	0
52	0	0	0	0
53	0	0	0	0
54	0	0	0	0
55	10	10	10	13
56	9	10	9	12
57	9	10	9	12
58	9	10	9	15
59	9	10	9	18
60	10	15	10	18
61	18	15	10	18
62	30	25	15	30
63	30	25	10	16
64	25	25	10	16
65	40	30	24	30
66	35	30	18	20
67	30	25	15	20
68	30	25	15	20
69	30	25	15	20
70	20	25	15	25
71	20	25	15	25
72	20	25	15	25
73	20	25	15	25
74	20	25	15	25
75	100	100	100	100

C. Other Assumptions

- 1. Percent married: 77% of male employees and 57.6% of female employees are assumed to be married.
- 2. Age difference: Male members are assumed to be four years older than their spouses, and female members are assumed to be four years younger than their spouses.
- 3. Percent electing annuity on death for contributory participants (when eligible): All of the spouses of married participants who die after becoming eligible for a retirement benefit are assumed to elect an annuity or a refund, whichever is more valuable at time of participant's death.
- 4. Percent electing deferred termination benefit: vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
- 5. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt when eligible for early retirement.
- 6. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.
- 7. Reemployment, purchase of service, transfers: No recognition is made of (i) future member reimbursements upon reemployment, (ii) future purchase of additional service, or (iii) special transfer provisions.
- 8. Sick Leave: It is assumed that all members will have their benefit service increased by sick leave and the following loads will be applied by group:

General Employees	3.75%
Teachers	4.25%
Police and Fire	5.00%

- 9. COLA delay: It is assumed that the first COLA will be received 9 months after retirement.
- 10. There will be no recoveries once disabled.
- 11. No surviving spouse will remarry and there will be no children's benefit.

- 12. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
- 13. Decrement timing: Retirements and terminations of Teachers are assumed to occur at the beginning of the year. All other decrements are assumed to occur mid-year.
- 14. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- 15. Decrement relativity: Decrement rates are used directly from the Experience Study, without adjustment for multiple decrement table effects.
- 16. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
- 17. Benefit Service: All members are assumed to accrue 1 year of service each year. Exact fractional service is used to determine the amount of benefit payable.

VI. Participant Data

Participant data was supplied on CD-ROM for (i) active members, (ii) inactive vested members, who are entitled to a future deferred benefit, (iii) members and beneficiaries receiving benefits.

Salary supplied for the current year was based on the earnings for the March preceding the valuation date. This salary was compared to March base pay plus a twelve-month average of overtime, with the greater of the two being used for valuation pay.

VII. Dates of Adoption of Assumptions and Methods

Generally, actuarial assumptions and methods were adopted by the Board of Trustees on August 14, 2006 as recommended by Gabriel, Roeder, Smith & Company. The legislature sets the investment return assumption. The salary scale assumption prior to the June 30, 2007 valuation was also set by statute. The 2007 Legislature removed this constraint as of June 30, 2007, and this assumption is now set by the Board based on the Actuary's recommendations.

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STATISTICAL TABLES

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Distribution of Active Members by Age and by Years of Service - All Employees As of 06/30/2009

						Years of	Credited	Service					
•	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &	Count &	Count &										
Age	Avg. Comp.	Avg Comp.	Avg. Comp.										
Under 25	276	269	89	33	8	2	0	0	0	0	0	0	677
	\$40,066	\$38,808	\$40,233	\$41,335	\$34,388	\$35,652	\$0	\$0	\$0	\$0	\$0	\$0	\$39,570
25-29	631	1,037	840	600	376	477	3	0	0	0	0	0	3,964
	\$43,372	\$42,870	\$45,924	\$47,343	\$47,903	\$47,838	\$49,216	\$0	\$0	\$0	\$0	\$0	\$45,354
30-34	421	830	710	647	613	2,422	252	2	0	0		0	5,897
	\$46,033	\$44,955	\$47,587	\$48,728	\$50,602	\$52,672	\$53,602	\$47,233	\$0	\$0	\$0	\$0	\$49,890
35-39	2,002	764	678	514	502	2,550	1,973	490	4	0		0	9,477
	\$45,190	\$45,340	\$49,463	\$49,487	\$51,148	\$53,615	\$59,591	\$59,851	\$40,114	\$0	\$0	\$0	\$52,078
40-44	216	554	515	429	393	1,909	1,597	2,407	504	4	0	0	8,528
	\$45,437	\$45,080	\$48,589	\$46,358	\$53,567	\$52,152	\$58,971	\$63,087	\$67,171	\$77,299	\$0	\$0	\$56,344
45-49	221	524	517	382	322	1,710	1,227	2,247	2,120	439	1	0	9,710
	\$40,395	\$44,351	\$46,869	\$48,337	\$48,181	\$48,748	\$54,574	\$61,497	\$67,141	\$68,945	\$61,014	\$0	\$56,802
50-54	179	419	400	354	293	1,519	1,164	1,888	1,922	1,682	428	8	10,256
	\$42,631	\$44,610	\$46,623	\$48,948	\$49,473	\$48,170	\$54,712	\$58,742	\$65,253	\$71,658			\$58,508
55-59	140	347	281	266	258	1,312	1,050	1,731	1,618	1,420	1,426	320	10,169
	\$44,734	\$49,956	\$50,847	\$49,489	\$53,292	\$49,876	\$54,082	\$57,563	\$65,120	\$72,388	\$75,040	\$70,740	\$61,408
60-64	57	191	174	156	176	846	653	1,122	957	642	562	973	6,509
	\$43,205	\$50,327	\$50,684	\$54,623	\$53,209	\$51,465	\$54,118	\$58,427	\$64,124	\$70,203	\$78,499	\$79,065	\$63,097
65 & Over	16	51	61	67	64	422	334	423	329	211	206	541	2,725
	\$55,299	\$54,173	\$47,348	\$57,522	\$47,605	\$49,260	\$52,531	\$56,915	\$60,082	\$71,975	\$81,894	\$90,124	\$64,743
Total	4,159	4,986	4,265	3,448	3,005	13,169	8,253	10,310	7,454	4,398	2,623	1,842	67,912
	\$44,304	\$44,818	\$47,686	\$48,710	\$50,651	\$51,107	\$56,431	\$60,100	\$65,504	\$71,431	\$75,192	\$80,732	\$56,514

Distribution of Active Members by Age and by Years of Service Noncontributory Members, All As of 06/30/2009

-						Y ears of	Credited	Service					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &												
Age	Avg. Comp.												
Under 25	0	0	0	21	7	1	0	0	0	0	0	0	29
	\$0	\$0	\$0	\$35,156	\$35,165	\$35,280	\$0	\$0	\$0	\$0	\$0	\$0	\$35,163
25-29	0	0	2	288	174	230	1	0	0	0	0	0	695
	\$0	\$0	\$30,000	\$45,434	\$43,553	\$44,448	\$34,243	\$0	\$0	\$0	\$0	\$0	\$44,576
30-34	2	0	3	298	270	1,016	102	0	0	0	0	0	1,691
	\$12,920	\$0	\$39,325	\$45,456	\$48,145	\$49,726	\$46,597	\$0	\$0	\$0	\$0.	\$0	\$48,470
35-39	6	2	4	233	226	1,071	709	183	2	0	0	0	2,436
	\$37,831	\$42,322	\$42,797	\$48,078	\$47,534	.\$49,624	\$54,743	\$54,374	\$42,951	\$0	\$0	\$0	\$51,077
40-44	1	2	3	206	181	890	659	877	164	1	0	0	2,984
	\$23,130	\$55,492	\$50,857	\$44,271	\$49,480	\$48,983	\$53,313	\$56,789	\$54,856	\$37,968	\$0	\$0	\$52,255
45-49	0	0	2	164	148	889	611	897	696	87	0	0	3,494
	\$0	\$0	\$44,318	\$44,723	\$45,304	\$46,147	\$49,918	\$56,827	\$60,780	\$61,483	\$0	\$0	\$52,742
50-54	0	0	1	151	126	698	564	894	755	348	123	6	3,666
	\$0	\$0	\$42,153	\$43,442	\$44,179	\$44,190	\$51,150	\$54,228	\$60,347	\$64,311	\$62,533	\$46,527	\$53,533
55-59	1	1	0	100	97	581	483	844	682	366	365	126	3,646
	\$51,312	\$52,968	\$0	\$44,414	\$46,399	\$45,693	\$49,733	\$54,171	\$59,629	\$68,811	\$71,036	\$73,135	\$56,591
60-64	1	1	0	52	68	373	343	603	470	213	187	374	2,685
	\$100,328	\$42,576	\$0	\$46,451	\$50,831	\$44,763	\$49,769	\$55,285	\$60,647	\$67,691	\$76,294	\$76,805	\$59,231
65 & Over	0	0	0	25	34	196	195	305	226	94	82	226	1,383
	\$0	\$0	\$0	\$50,578	\$47,382	\$42,433	\$48,334	\$54,139	\$57,714	\$69,850	\$81,111	\$89,581	\$60,474
Total	11	6		1,538		5,945	3,667	4,603	2,995	1,109	757	732	22,709
	\$38,872	\$48,529	\$42,168		\$46,853	\$47,259	\$51,431	\$55,350	\$59,820	\$66,669	\$72,045	\$79,870	\$53,893
	-	(2)	-										

Distribution of Active Members by Age and by Years of Service Noncontributory Members, General Employees As of 06/30/2009

·						i cars of	Credited	SCIVICE					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &												
Age	Avg. Comp.												
Under 25	0		0		7	1	0	0		-	0		29
	\$0	\$0	\$0	\$35,156	\$35,165	\$35,280	\$0	\$0	\$0	\$0	\$0	\$0	\$35,163
25-29	0	0	2	151	107	158	1	0	0	0	0	0	419
	\$0	\$0	\$30,000	\$42,492	\$40,816	\$42,166	\$34,243	\$0	\$0	\$0	\$0	\$0	\$41,862
30-34	2	0	3	203	161	548	65	0	0	0	0	0	982
	\$12,920	\$0	\$39,325	\$43,901	\$47,060	\$48,065	\$42,170	\$0	\$0	\$0	\$0	\$0	\$46,551
35-39	3	2	3	183	163	754	361	151	2	0	0	0	1,622
	\$34,406	\$42,322	\$42,245	\$47,110	\$45,224	\$47,698	\$51,957	\$52,405	\$42,951	\$0	\$0	\$0	\$48,722
40-44	1	2	2	175	126	696	455	598	137	1	0	0	2,193
	\$23,130	\$55,492	\$40,896	\$42,151	\$43,780	\$46,112	\$50,705	\$54,160	\$53,059	\$37,968	\$0	\$0	\$49,233
45-49	0	0	2	138	117	717	487	703	495	81	0	0	2,740
	\$0	\$0	\$44,318	\$43,311	\$42,926	\$42,889	\$47,089	\$53,769	\$58,056	\$61,460	\$0	\$0	\$49,740
50-54	0	0	1	127	99	561	449	748	607	276	112	6	2,986
	\$0	\$0	\$42,153	\$42,045	\$42,294	\$40,876	\$47,441	\$51,217	\$57,796	\$62,007	\$60,816	\$46,527	\$50,703
55-59	1	0	0		79	477	380	654	532	290	274	111	2,880
	\$51,312	\$0	\$0	\$41,326	\$44,863	\$43,045	\$45,673	\$49,089	\$55,288	\$65,501	\$66,997	\$70,745	\$52,637
60-64	0	0	0			297	274	476		150	143	209	1,970
	\$0	\$0	\$0	\$41,088	\$47,418	\$41,676	\$46,807	\$50,048	\$53,982	\$61,920	\$72,574	\$69,214	\$53,326
65 & Over	0	0	0		27	169	168	266	-		44	108	1,048
	\$0	_	\$0			\$40,496		\$50,770			\$64,978	\$78,427	\$51,987
Total	7	4	13	1,140		4,378		3,596			573	434	16,869
	\$29,072					\$44,434		\$51,680					\$50,393
	427,072	Ψ.0,707	40,,,,,	Ψ 10,010	4, . = 0	Ψ,	4 , ,	+,500	+,,,,,	+,	+,,	4,- 00	· , ·

Distribution of Active Members by Age and by Years of Service Noncontributory Members, Teachers As of 06/30/2009

	**					_ rears or	Credited	SCIVICE					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &												
Age	Avg. Comp.												
Under 25	0	0	0	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25-29	0	0	0	137	67	72	0	0	0	0	0	0	276
	\$0	\$0	\$0	\$48,676	\$47,922	\$49,454	\$0	\$0	\$0	\$0	\$0	\$0	\$48,696
30-34	0	0	0	95	109	468	37	0	0	0	0	0	709
	\$0	\$0	\$0	\$48,778	\$49,747	\$51,671	\$54,375	\$0	\$0	\$0	\$0	\$0	\$51,129
35-39	3	0	1	50	63	317	348	32	0	0	0	0	814
	\$41,256	\$0	\$44,452	\$51,623	\$53,511	\$54,205	\$57,634	\$63,664	\$0	\$0	\$0	\$0	\$55,771
40-44	0	0	1	31	55	194	204	279	27	0	0	0	791
	\$0	\$0	\$70,779	\$56,240	\$62,538	\$59,282	\$59,129	\$62,423	\$63,976	\$0	\$0	\$0	\$60,632
45-49	0	0	0	26	31	172	124	194	201	6	0	0	754
	\$0	\$0	\$0	\$52,217	\$54,278	\$59,729	\$61,029	\$67,908	\$67,490	\$61,797	\$0	\$0	\$63,650
50-54	0	0	0	24	27	137	115	146	148	72	11	0	680
	\$0	\$0	\$0	\$50,836	\$51,088	\$57,760	\$65,634	\$69,654	\$70,806	\$73,141	\$80,014	\$0	\$65,964
55-59	0	1	0	18	18	104	103	190	150	76	91	15	766
	\$0	\$52,968	\$0	\$58,483	\$53,141	\$57,837	\$64,712	\$71,663	\$75,025	\$81,445	\$83,196	\$90,826	\$71,456
60-64	1	1	0	14	16	76	69	127	139	63	44	165	715
	\$100,328	\$42,576	\$0	\$61,009	\$61,924	\$56,827	\$61,530	\$74,917	\$76,519	\$81,432	\$88,384	\$86,421	\$75,499
65 & Over	0	0	0	3	7	27	27	39	48	28	38	118	335
	\$0	\$0	\$0	\$62,506	\$74,880	\$54,563	\$71,504	\$77,118	\$78,290	\$96,600	\$99,792	\$99,790	\$87,024
Total	4	2	2	398	393	1,567	1,027	1,007	713	245	184	298	5,840
	\$56,024	\$47,772	\$57,616	\$51,003	\$53,378	\$55,150	\$60,456	\$68,456	\$72,118	\$80,252	\$87,674	\$91,937	\$64,001

Distribution of Active Members by Age and by Years of Service Contributory Members, All As of 06/30/2009

	75					i ears of	Createa	service					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &	Count &	Count &	Count &	Count &								
Age	Avg. Comp.	Avg Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.								
Under 25	20	28	13	6	0	0	0	0	0	0	0	0	67
	\$56,961	\$55,728	\$56,536	\$61,265	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,749
25-29	124	84	92	67	41	66	1	0	0	0	0	0	475
	\$50,861	\$58,535	\$61,471	\$62,105	\$66,411	\$66,194	\$62,460	\$0	\$0	\$0	\$0	\$0	\$59,356
30-34	23	47	79	63	77	332	62	0	0	0	0	0	683
	\$53,441	\$56,155	\$61,241	\$64,141	\$63,319	\$65,909	\$70,784	\$0	\$0	\$0	\$0	\$0	\$64,266
35-39	23	25	44	36	53	400	394	88	0	0	0	0	1,063
	\$57,609	\$58,610	\$62,377	\$58,729	\$62,434	\$65,850	\$73,884	\$83,123	\$0	\$0	\$0	\$0	\$69,354
40-44	9	13	13	14	32	175	255	391	147	3	0	0	1,052
	\$56,704	\$62,346	\$61,401	\$66,015	\$65,951	\$66,122	\$76,219	\$83,333	\$93,127	\$90,409	\$0	\$0	\$78,617
45-49	2	4	6	6	11	46	74	281	308	220	0	0	958
	\$55,002	\$62,588	\$60,590	\$74,710	\$72,489	\$68,360	\$73,424	\$83,647	\$92,513	\$78,873	\$0	\$0	\$83,401
50-54	2	4	3	5	.5	21	58	111	180	667	138	0	1,194
	\$50,974	\$75,192	\$48,780	\$64,809	\$89,997	\$89,350	\$79,876	\$86,509	\$93,078	\$77,567	\$74,327	\$0	\$80,555
55-59	2	0	4	0	2	16	21	30	79	471	411	64	1,100
	\$54,148	\$0	\$58,939	\$0	\$78,022	\$78,250	\$89,450	\$96,516	\$100,661	\$75,049	\$78,226	\$73,944	\$78,827
60-64	1	0	3	2	2	14	7	9	23	187	153	209	610
	\$48,708	\$0	\$49,212	\$127,080	\$129,174	\$103,158	\$71,448	\$119,899	\$103,813	\$68,180	\$78,035	\$77,592	\$77,091
65 & Over	0	0	2	0	1	8	4	4	4	59	67	136	285
	\$0	\$0	\$80,050	\$0	\$48,708	\$108,609	\$73,064	\$84,571	\$86,788	\$58,164	\$64,727	\$83,019	\$74,085
Total	206	205	259	199	224	1,078	876	914	741	1,607	769	409	7,487
	\$52,812	\$58,261	\$61,099	\$63,490	\$65,752	\$67,484	\$75,039	\$84,594	\$93,961	\$75,227	\$76,313	\$78,825	\$75,231

Distribution of Active Members by Age and by Years of Service Contributory Members, General Employees As of 06/30/2009

Years of Credited Service 2 3 0 1 4 5-9 10-14 15-19 20-24 25-29 30-34 35 & Over Total Count & Count & Attained Count & Avg. Comp. Avg Co Age 0 0 0 0 0 0 0 0 0 0 0 Under 25 0 0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 0 5 25-29 0 0 0 2 0 0 0 0 0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$47,511 \$0 \$25,855 \$47,003 \$0 \$58,847 30-34 1 0 2 0 1 0 0 0 0 0 11 \$0 \$48,708 \$0 \$0 \$0 \$0 \$0 \$48,180 \$48,708 \$0 \$47,168 \$0 \$48,319 0 4 0 0 0 0 31 35-39 3 0 16 1 \$52,848 \$0 \$0 \$0 \$0 \$0 \$54,759 \$34,291 \$52,888 \$52,750 \$80,412 \$0 \$47,913 2 2 0 0 47 0 2 13 14 40-44 \$0 \$0 \$60,507 \$90,208 \$67,634 \$63,922 \$71,945 \$0 \$71,051 \$48,708 \$0 \$71,581 \$82,617 0 0 1 2 0 11 12 103 145 45-49 \$0 \$98,988 \$69,993 \$56,539 \$75,745 \$83,683 \$55,132 \$0 \$0 \$60,342 \$48,708 \$63,148 \$46,266 88 0 482 13 20 329 50-54 3 1 13 2 \$94,540 \$0 \$87,522 \$48,780 \$98,600 \$93,120 \$127,277 \$101,292 \$93,430 \$61,305 \$60,298 \$65,787 \$50,974 45 623 21 304 218 55-59 0 10 13 \$84,794 \$64,183 \$48,708 \$0 \$66,500 \$0 \$78,022 \$93,374 \$121,465 \$110,618 \$66,974 \$67,204 \$69,866 7 10 96 101 378 60-64 0 2 12 6 138 \$0 \$49,212 \$127,080 \$129,174 \$106,028 \$72,136 \$125,562 \$122,749 \$62,132 \$71,206 \$65,324 \$70,180 \$48,708 70 184 2 44 52 65 & Over 0 0 2 0 8 1 \$96,648 \$59,311 \$66,393 \$0 \$0 \$48,708 \$108,609 \$52,446 \$52,511 \$74,372 \$0 \$80,050 \$73,064 920 454 216 1,906 Total 10 4 16 6 19 80 60 55 66

\$79,701

\$79,956

\$93,469

\$100,054

\$62,214

\$65,808

\$68,019

\$80,176

\$66,012

\$56,157

\$83,225

\$67,437

\$58,672

Distribution of Active Members by Age and by Years of Service Contributory Members, Teachers As of 06/30/2009

	,					Years of	Credited	Service					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &												
Age	Avg. Comp.												
Under 25	0	0	0	0					0	-	0	0	0
	\$0	\$0	\$0	\$0					\$0	\$0	\$0	\$0	\$0
25-29	0	0		0	_		0	-	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30-34	0	0	0	0	0		0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
35-39	0	0	0	0	0	0	2	0	0	0	0	0	2
	\$0	\$0	\$0	\$0	\$0	\$0	\$64,357	\$0	\$0	\$0	\$0	\$0	\$64,357
40-44	0	0	0	0	0	0	1	1	0	0	0	0	2
	\$0	\$0	\$0	\$0	\$0	\$0	\$53,958	\$54,183	\$0	\$0	\$0	\$0	\$54,070
45-49	0	0	0	0	0	0	0	3	0	13	0	0	16
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$70,919	\$0	\$74,777	\$0	\$0	\$74,053
50-54	0	0	0	0	0	1	1	2	0	113	16	0	133
	\$0	\$0	\$0	\$0	\$0	\$38,207	\$149,062	\$108,613	\$0	\$74,039	\$73,833	\$0	\$74,829
55-59	0	0	0	0	0	0	0	1	1	74	127	10	213
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$82,996	\$99,241	\$75,862	\$82,151	\$85,668	\$80,215
60-64	0	0	0	0	0	0	0	0	0	33	36	98	167
	\$0	\$0	\$0	. \$0	\$0	\$0	\$0	\$0	\$0	\$80,333	\$80,812	\$87,197	\$84,464
65 & Over	0	0	0	0	0	0	0	1	1	15	10	66	93
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$82,563	\$130,900	\$74,749	\$74,031	\$92,190	\$87,737
Total	0	0	0	0	0	1	4	8	2	248	189	174	626
	\$0	\$0	\$0	\$0	\$0	\$38,207	\$82,934	\$81,216	\$115,071	\$75,502	\$80,762	\$89,003	\$81,030

Distribution of Active Members by Age and by Years of Service Contributory Members, Police and Firefighters As of 06/30/2009

						Years of	Credited	Service					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &												
Age	Avg. Comp.												
Under 25	20	28	13	6	0	0	0	0	0	0	0	0	67
	\$56,961	\$55,728	\$56,536	\$61,265	#DIV/0!	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,749
25-29	124	83	92	65	41	64	1	0	0	0	0	0	470
	\$50,861	\$58,929	\$61,471	\$62,570	\$66,411	\$66,424	\$62,460	\$0	\$0	\$0	\$0	\$0	\$59,482
30-34	22	47	77	63	77	325	61	0	0	0	0	0	672
	\$53,656	\$56,155	\$61,607	\$64,141	\$63,319	\$66,288	\$71,146	\$0	\$0	\$0	\$0	\$0	\$64,529
35-39	20	25	43	35	49	384	386	88	0	0	0	0	1,030
	\$54,188	\$58,610	\$62,713	\$59,427	\$63,217	\$66,390	\$74,262	\$83,123	\$0	\$0	\$0	\$0	\$69,803
40-44	8	13	11	14	28	162	245	376	145	1	0	0	1,003
	\$57,703	\$62,346	\$59,550	\$66,015	\$63,570	\$66,573	\$75,796	\$83,995	\$93,530	\$127,337	\$0	\$0	\$79,021
45-49	1	3	4	6	8	42	66	267	296	104	0	0	797
	\$61,295	\$62,401	\$67,752	\$74,710	\$62,552	\$68,205	\$75,471	\$84,116	\$92,871	\$102,898	\$0	\$0	\$87,784
50-54	0	2	0	4	2	12	44	96	160	225	34	0	579
	\$0	\$62,861	\$0	\$56,361	\$85,313	\$68,327	\$73,971	\$84,047	\$93,034	\$103,118	\$110,872	\$0	\$94,165
55-59	1	0	3	0	0	6	8	21	57	93	66	9	264
	\$59,588	\$0	\$56,418	\$0	\$0	\$67,344	\$83,075	\$87,655	\$97,017	\$100,798	\$107,082	\$109,718	\$98,853
60-64	0	0	0	0	0	2	1	2	13	16	21	10	65
	\$0	\$0	\$0	\$0	\$0	\$85,939	\$67,320	\$100,079	\$89,247	\$95,281	\$104,496	\$107,357	\$98,339
65 & Over	0	0	0	0	0	0	0	1	2	0	5	0	8
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$62,424	\$81,903	\$0	\$102,445	\$0	\$92,307
Total	196	201	243	193	205	997	812	851	673	439	126	19	4,955
	\$52,513	\$58,107	\$61,424	\$62,971	\$64,132	\$66,533	\$74,637	\$84,052	\$93,301	\$102,344	\$107,490	\$108,476	\$77,496

Distribution of Active Members by Age and by Years of Service Hybid Plan Members, All As of 06/30/2009

						Years of	Credited	Service					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &	Count &	Count &	Count &									
Age	Avg. Comp.	Avg Comp.	Avg. Comp.	Avg. Comp.									
Under 25	256	241	76	6	1	1	0	0	0	0	0	0	581
	\$38,746	\$36,842	\$37,444	\$43,028	\$28,951	\$36,024	\$0	\$0	\$0	\$0	\$0	\$0	\$37,809
25-29	507	953	746	245	161	181	1	0	0	0	0	0	2,794
	\$41,540	\$41,489	\$44,050	\$45,550	\$47,892	\$45,453	\$50,944	\$0	\$0	\$0	\$0	\$0	\$43,167
30-34	396	783	628	286	266	1,074	88	2	0	0	0	0	3,523
	\$45,770	\$44,283	\$45,909	\$48,743	\$49,415	\$51,367	\$49,616	\$47,233	\$0	\$0	\$0	\$0	\$47,784
35-39	1,973	737	630	245	223	1,079	870	219	2	0	0	0	5,978
	\$45,068	\$44,898	\$48,603	\$49,469	\$52,129	\$53,042	\$57,068	\$55,076	\$37,278	\$0	\$0	\$0	\$49,413
40-44	206	539	499	209	180	844	683	1,139	193	0	0	0	4,492
	\$45,053	\$44,625	\$48,242	\$47,098	\$55,474	\$52,597	\$57,991	\$60,985	\$57,865	\$0	\$0	\$0	\$53,844
45-49	219	520	509	212	163	775	542	1,069	1,116	132	1	0	5,258
	\$40,262	\$44,211	\$46,717	\$50,386	\$49,154	\$50,566	\$57,248	\$59,594	\$64,106	\$57,315	\$61,014	\$0	\$54,654
50-54	177	415	396	198	162	800	542	883	987	667	167	2	5,396
	\$42,537	\$44,315	\$46,618	\$52,747	\$52,340	\$50,562	\$55,726	\$59,821	\$63,932	\$69,582	\$67,212	\$52,109	\$57,009
55-59	137	346	277	166	159	715	546	857	857	583	650	130	5,423
	\$44,548	\$49,947	\$50,731	\$52,546	\$57,186	\$52,639	\$56,569	\$59,540	\$66,213	\$72,482	\$75,274	\$66,842	\$61,114
60-64	55	190	171	102	106	459	303	510	464	242	222	390	3,214
	\$42,067	\$50,368	\$50,710	\$57,368	\$53,301	\$55,334	\$58,642	\$61,056	\$65,678	\$73,978	\$80,677	\$82,022	\$63,671
65 & Over	16	51	59	42	29	218	135	114	99	58	57	179	1,057
	\$55,299	\$54,173	\$46,239	\$61,655	\$47,829	\$53,219	\$57,986	\$63,372	\$64,408	\$89,466	\$103,198	\$96,209	\$67,810
Total	3,942			1,711	1,450	6,146	3,710	4,793	3,718	1,682	1,097	701	37,716
	\$43,874	\$44,236				\$51,958	\$56,978	\$59,991	\$64,411	\$70,943	\$76,578	\$82,744	\$54,378

Distribution of Active Members by Age and by Years of Service Hybrid Plan Members, General Employees As of 06/30/2009

						y ears of	Credited	Service					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &	Count &	Count &	Count &	Count &	Count &							
Age	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.	Avg. Comp.							
Under 25	76	154	75	6	1	1	0	0	0	0	0	0	313
	\$31,487	\$33,549	\$37,395	\$43,028	\$28,951	\$36,024	\$0	\$0	\$0	\$0	\$0	\$0	\$34,145
25-29	232	596	412	141	83	120	1	0	0	0	0	0	1,585
	\$40,204	\$40,148	\$42,465	\$44,143	\$46,079	\$42,399	\$50,944	\$0	\$0	\$0	\$0	\$0	\$41,602
30-34	244	591	431	186	169	568	54	2	0	0	0	0	2,245
	\$44,433	\$42,687	\$44,549	\$47,554	\$49,179	\$49,387	\$46,118	\$47,233	\$0	\$0	\$0	\$0	\$45,908
35-39	1,527	553	473	191	155	725	407	163	2	0	0	0	4,196
	\$44,555	~\$42,745	\$46,461	\$48,674	\$50,143	\$50,976	\$54,397	\$51,964	\$37,278	\$0	\$0	\$0	\$47,274
40-44	133	434	398	168	133	622	434	686	158	0	0	0	3,166
	\$41,087	\$42,949	\$46,624	\$44,847	\$53,499	\$49,580	\$55,531	\$58,474	\$56,107	\$0	\$0	\$0	\$50,925
45-49	159	453	415	168	125	613	408	818	700	120	1	0	3,980
	\$37,924	\$42,420	\$44,605	\$49,183	\$46,814	\$47,859	\$54,212	\$57,101	\$60,521	\$56,026	\$61,014	\$0	\$51,554
50-54	128	349	319	161	128	644	402	692	720	502	135	2	4,182
	\$40,222	\$42,082	\$45,105	\$49,956	\$50,691	\$47,566	\$52,061	\$56,425	\$60,714	\$66,824	\$64,443	\$52,109	\$53,904
55-59	105	290	221	141	131	572	398	607	577	422	464	109	4,037
	\$42,899	\$47,540	\$47,993	\$50,643	\$57,298	\$50,232	\$52,576	\$54,682	\$61,183	\$69,477	\$71,600	\$64,526	\$57,288
60-64	36	153	137	81	92	366	213	344	307	171	159	235	2,294
	\$41,665	\$49,052	\$48,885	\$55,223	\$52,569	\$52,821	\$54,656	\$55,206	\$60,401	\$70,041	\$74,087	\$75,021	\$58,808
65 & Over	8	40	52	31	22	181	98	82	71	29	26	94	734
	\$39,785	\$52,377	\$46,479	\$57,921	\$42,732	\$51,312	\$52,155	\$57,025	\$54,246	\$77,234	\$90,631	\$83,937	\$58,554
Total	2,648	3,613		1,274	1,039	4,412		3,394	2,535	1,244	785	440	26,732
	\$42,886	\$42,594		\$48,566		\$49,478	\$53,626	Service and the research		\$67,367	\$71,490	\$74,222	\$51,588
		75	150										

Distribution of Active Members by Age and by Years of Service Hybrid Plan Members, Teachers As of 06/30/2009

						Y ears of	Creattea	service					
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained	Count &												
Age	Avg. Comp.												
Under 25	180	87	1	0	0	0	0			0	0	0	268
	\$41,811	\$42,672	\$41,089	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$42,088
25-29	275	357	334	104	78	61	0	0	0	0	0	0	1,209
	\$42,667	\$43,727	\$46,005	\$47,457	\$49,821	\$51,459	\$0	\$0	\$0	\$0	\$0	\$0	\$45,219
30-34	152	192	197	100	97	506	34	0	0	0	0	0	1,278
	\$47,915	\$49,197	\$48,884	\$50,956	\$49,826	\$53,590	\$55,171	\$0	\$0	\$0	\$0	\$0	\$51,080
35-39	446	184	157	54	68	354	463	56	0	0	0	0	1,782
	\$46,823	\$51,369	\$55,058	\$52,282	\$56,655	\$57,273	\$59,416	\$64,135	\$0	\$0	\$0	\$0	\$54,451
40-44	73	105	101	41	47	222	249	453	35	0	0	0	1,326
	\$52,280	\$51,553	\$54,617	\$56,324	\$61,064	\$61,047	\$62,278	\$64,788	\$65,801	\$0	\$0	\$0	\$60,812
45-49	60	67	94	44	38	162	134	251	416	12	0	0	1,278
	\$46,457	\$56,321	\$56,042	\$54,979	\$56,850	\$60,812	\$66,494	\$67,718	\$70,140	\$70,201	\$0	\$0	\$64,309
50-54	49	66	77	37	34	156	140	191	267	165	32	0	1,214
	\$48,583	\$56,119	\$52,887	\$64,894	\$58,547	\$62,933	\$66,251	\$72,126	\$72,612	\$77,974	\$78,894	\$0	\$67,706
55-59	32	56	56	25	28	143	148	250	280	161	186	21	1,386
	\$49,961	\$62,411	\$61,535	\$63,279	\$56,664	\$62,268	\$67,308	\$71,336	\$76,577	\$80,360	\$84,439	\$78,863	\$72,258
60-64	19	37	34	21	14	93	90	166	157	71	63	155	920
	\$42,829	\$55,810	\$58,066	\$65,638	\$58,109	\$65,223	\$68,074	\$73,179	\$75,995	\$83,459	\$97,308	\$92,637	\$75,794
65 & Over	8	11	7	11	7	37	37	32	28	29	31	85	323
	\$70,812	\$60,705	\$44,456	\$72,178	\$63,849	\$62,551	\$73,431	\$79,637	\$90,176	\$101,697	\$113,737	\$109,780	\$88,846
Total	1,294	1,162	1,058	437	411	1,734	1,295	1,399	1,183	438	312	261	10,984
	\$45,896	\$49,345	\$51,294	\$54,321	\$54,598	\$58,268	\$63,230	\$68,795	\$73,344	\$81,098	\$89,380	\$97,112	\$61,167

Summary of Pensions in Force by Type of Retirement

	Contri	butory	/	Noncor	tributo	ory	Н	ybrid	
Employee Group			verage			verage			verage
Employee Gloup		M	onthly		M	onthly	1	M	onthly
	Number	Pe	nsion	Number	Pe	nsion	Number	P	ension
All Employees	23,404	\$	2,019	10,013	\$	1,421	1,011	\$	1,602
	Ser	vice		Sei	rvice	-	Se	rvice	
Total	22,757	\$	2,047	9,247	\$	1,482	939	\$	1,653
General Employees - male	5,869		1,859	3,150		1,369	267		1,793
General Employees - female	7,569		1,357	3,312		1,093	396		1,318
Teachers - male	1,805		2,645	956		2,194	73		2,288
Teachers - female	4,720		2,458	1,829		2,009	203		1,894
Police and Firefighters	2,794		3,232	-		-	-		-
	Ordinary	Disab	ility	Ordinary	Disab	ility	Ordinar	/ Disab	ility
Total	299	\$	760	637	\$	721	66	\$	918
General Employees - male	110		768	309		713	30		879
General Employees - female	105		593	254		613	24		859
Teachers - male	8		1,203	30		1,210	6		970
Teachers - female	38		1,005	44		1,071	6		1,299
Police and Firefighters	38		859	-		-	-		-
	Accidenta	l Disal	oility	Accidenta	al Disal	bility	Acciden	al Disa	bility
Total	348	\$	1,273	129	\$	506	6	\$	1,056
General Employees - male	135		1,229	77		528	4		1,012
General Employees - female	77		1,089	47		452	2		1,144
Teachers - male	2		2,273	1		487	-		
Teachers - female	4		2,413	4		724	-		-
Police and Firefighters	130		1,378	-					

Summary of Pensions in Force by Age and Type <u>General Employees</u>

		Type of	Pension	
Age			Ordinary	Accidental
1 780	Total	Service	Disability	Disability
Total	21,737	20,563	832	342
		Contri	butory	
Total	13,865	13,438	215	212
30-39	1	1	_	•
40-44	1	1	-	:=:
45-49	22	11	4	7
50-54	57	36	10	11
55-59	532	499	21	12
60-64	1,237	1,182	29	26
65-69	1,731	1,679	24	28
70-74	2,161	2,100	29	32
75-79	2,761	2,700	31	30
80-84	2,757	2,692	24	41
85-89	1,790	1,745	31	14
90-94	670	650	9	11
95-99	130	127	3	
100 & over	15	15		-
100 00 0701			tributory	<u> </u>
Total	7,149	6,462	563	124
30-39	7,149	0,402	2	124
40-44	7		4	- 2
45-49	35	-	30	3 5
50-54	88	3	61	24
55-59	489	334	139	16
60-64	1,554	1,368	164	22
65-69	2,365	2,225	109	31
70-74	1,482	1,428	44	10
75-79	765	752	7	6
80-84	295	288	3	4
85-89	62	59	3	3
90-94	5	5	_	3
95-99	3	3		_
100 & over	-			_
100 & 0001		Ну	brid	
T-4-1	702			
Total 30-39	723	663	54	6
40-44	3	-	3	-
45-49	6	1	5	1 1
50-54	10	1	6	3
55-59	159	138	20	1
60-64	351	333	16	2
65-69	144	141		
70-74	37	36	3 1	-
75-79	10	10	1	_
80-84	2	2	-	-
85-89	1	1	-	·-
90-94	1	1	-	=
	-		-	-
95-99	-	-	-	=
100 & over	-		-	-

Summary of Pensions in Force by Age and Type

Teachers

		Type of	Pension	
Age			Ordinary	Accidental
	Total	Service	Disability	Disability
Total	9,730	9,586	132	12
		Contri	ibutory	
Total	6,577	6,525	46	6
30-39	_		- 1	-
40-44	-	-	-	-
45-49	-	-	-	-
50-54	6	4	2	-
55-59	181	179	2 2 9	-
60-64	964	955	9	-
65-69	1,173	1,162	10	1
70-74	1,299	1,293	6	
75-79	1,377	1,371	3 7	3 2
80-84	841	832	- 7	2
85-89	444	441	3 2 2	-
90-94	187	185	2	-
95-99	77	75	2	-
100 & over	28	28	-	-
		Noncon	tributory	
Total	2,864	2,785	74	5
30-39	_,00.	-,,,,,,		_
40-44	2	_	2	_
45-49	4	_	4	_
50-54	6	_	4	2
55-59	139	119	20	
60-64	856	828	26	2
65-69	1,059	1,043	16	_
70-74	501	499	2	_
75-79	201	200	-	1
80-84	71	71	_	-
85-89	24	24	-	_
90-94			_	_
95-99	. 1	1	_	-
100 & over	-	-	-	-
		Hv	brid	
Total	289	276	12	1
30-39	-	-		-
40-44	-	-	_	-
45-49	_	_	-	_
50-54	3	_	3	_
55-59	78	73	3 5	_
60-64	148	143	4	1
65-69	46	46	_ '	_ ^
70-74	11	11	_	_
75-79	Î	1	_ [_
80-84	2	2	_	_
85-89	_ ~	_ ~	_	_
90-94	_	_	_	_
95-99	_	_	_	_
100 & over		-	_	-
100 00 0001		·	L	

Summary of Pensions in Force by Age and Type

Police and Firefighters

		Туре	of Pension	
Age	Total	Service	Ordinary Disability	Accidental Disability
Total	2,962	2,794	38	130
30-39	3	-	1	2
40-44	4	=	3	1
45-49	43	34	4	5
50-54	191	180	2	9
55-59	548	518	8	22
60-64	803	77 1	5	27
65-69	596	562	4	30
70-74	358	345	2	11
75-79	181	167	3	11
80-84	119	117	-	2
85-89	90	76	6	8
90-94	25	23	-	2
95-99	1	1	-	-
100 & over	-	_	-	-

Noncontributory Service Pensions in Force

by Years of Service

	To	otal	General l	Employees	Teac	hers
Years of Service	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
			¥)			
Total	9,247	\$ 1,481	6,462	\$ 1,227	2,785	\$ 2,071
Less than 5	5	710	3	842	2	512
5-9	9	719	6	319	3	1,518
10-14	2,090	486	1,810	460	280	660
15-19	1,223	781	998	735	225	988
20-24	1,094	988	826	920	268	1,197
25-29	961	1,593	670	1,429	291	1,968
30-34	2,495	2,192	1,322	1,991	1,173	2,417
35 and over	1,370	2,660	827	2,434	543	3,004

Noncontributory Service Pensions in Force

by Years Since Retirement

	To	otal	General F	Employees	Teac	hers
Years Since Retirement		Average Monthly		Average Monthly		Average Monthly
	Number	Pension	Number	Pension	Number	Pension
Total	9,247	\$ 1,482	6,462	\$ 1,228	2,785	\$ 2,073
Less than 5	3,685	1,409	2,680	1,215	1,005	1,928
5-9	3,323	1,544	2,243	1,242	1,080	2,170
10-14	1,787	1,532	1,250	1,251	537	2,188
15-19	404	1,481	258	1,195	146	1,988
20 & Over	48	990	31	670	17	1,574

Contributory Service Pensions in Force

by Years of Service

	To	otal	General I	Employees	Tea	chers	Police and	Firefighters
Years of Service		Average Monthly		Average Monthly		Average Monthly		Average Monthly
	Number	Pension	Number	Pension	Number	Pension	Number	Pension
Total	21,891	\$ 1,972	13,438	\$ 1,576	6,525	\$ 2,510	1,928	\$ 2,904
Less than 5	66	1,019	55	972	9	1,237	2	1,336
5-9	999	304	797	309	195	263	7	749
10-14	1,812	584	1,538	571	239	606	35	986
15-19	2,239	968	1,829	921	356	1,139	54	1,445
20-24	2,920	1,414	2,188	1,280	621	1,723	111	2,335
25-29	6,518	2,273	3,046	1,790	1,753	2,364	1,719	3,036
30-34	5,102	2,678	2,529	2,376	2,573	2,974		
35 and over	2,235	3,112	1,456	2,786	779	3,720	_	-

Contributory Service Pensions in Force

by Years Since Retirement

	To	otal	General I	Employees	Teac	chers	Police and	Firefighters
Years Since Retirement	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	22,757	\$ 2,047	13,438	\$ 1,576	6,525	\$ 2,510	2,794	\$ 3,232
Less than 5	2,481	2,838	1,293	2,163	643	3,281	545	3,917
5-9	3,566	2,648	1,774	2,045	1,112	3,124	680	3,446
10-14	4,444	2,451	2,460	1,969	1,311	2,876	673	3,382
15-19	4,252	1,968	2,531	1,514	1,319	2,538	402	2,956
20-24	4,086	1,543	2,617	1,265	1,221	1,947	248	2,481
25-29	2,538	1,248	1,875	1,090	564	1,593	99	2,283
30-34	1,035	1,064	681	865	226	1,295	128	1,716
35 and over	355	768	207	672	129	832	19	1,384

General Employees

	To	tal	Se	rvice	Ordinary	Disability	Accidenta	l Disability	Ot	her
Type of Option		Average Monthly		Average Monthly		Average Monthly		Average Monthly		Average Monthly
	Number	Pension	Number	Pension	Number	Pension	Number	Pension	Number	Pension
Total	21,737	\$ 1,426	20,563	\$ 1,465	832	\$ 684	342	\$ 930	_	\$ -
		Contributory						Y		
Total Maximum	13,865 1,652	\$ 1,556 1,508	13,438 1,607	\$ 1,576 1,525	215 26	\$ 682 878	212 19	\$ 1,178 939	-	\$ - -
Option 1 Option 2	985 662	1,063 1,792	928 628	1,074 1,823	32 14	746 1,079	25 20	1,064 1,330	-	-
Option 3 Option 4	319 5,617	2,235 1,804	309 5,459	2,268 1,828	7 70	800 717	3 88	2,174 1,227	-	-
Option 5	4,630	1,298	4,507	1,312	66	441	57	1,126	-	
		r		Γ	Noncontr	1	Γ		Τ	1
Total Maximum	7,149 3,977	\$ 1,171 1,209	6,462 3,699	\$ 1,228 1,250	563 218	\$ 667 704	124 60	\$ 499 521	-	\$ - -
Option A Option B	1,303 1,427	1,251 971	1,201 1,166	1,296 1,059	79 226	790 594	23 35	496 471	-	-
Option C	442	1,240	396	1,312	40 Hybi	646	6	452	<u> </u>	-
		T .		T	1	1		T		Γ
Total Maximum	723 278	\$ 1,458 1,354	663 267	\$ 1,509 1,365	54 8	\$ 870 1,101	6 3	\$ 1,056 1,126	-	\$ - -
Option 1 Option 2	61 173	1,391 1,476	58 141	1,421 1,631	3 29	811 773	3	- 986	-	-
Option 3 Option 4	111 68	1,591 1,747	104 64	1,620 1,807	7 4	1,148 780	-	-	-	kı I
Option 5	32	1,312	29	1,374	3	715	-		-	-

Teachers

	То	tal	Ser	vice	Ordinary	Disability	Accidenta	l Disability	Ot	her	
Type of Option	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Mo	erage onthly
Tatal											nsion
Total	9,730	\$ 2,350	9,586	\$ 2,368	132	\$ 1,097	12	\$ 1,603		\$	-
			·	· · · · · · · · · · · · · · · · · · ·	Contril	outory	r	T		1	
Total Maximum	6,577 932	\$ 2,500 2,721	6,525 923	\$ 2,510 2,736	46 9	\$ 1,040 1,206	6	\$ 2,366	-	\$	-
Option 1	362	1,862	355	1,885	6	768	1	379	-		-
Option 2	223	2,512	222	2,516	1	1,615	-	_	-		-
Option 3	131	3,330	128	3,366	2	2,173	1	1,046	-		_
Option 4	2,428	2,833	2,412	2,843	14	1,096	2	2,544	-		
Option 5	2,501	2,141	2,485	2,147	14	789	2	3,842	-		_
					Noncont	ributory					
Total	2,864	\$ 2,046	2,785	\$ 2,073	74	\$ 1,127	5	\$ 677	-	\$	-
Maximum	1,893	2,098	1,843	2,124	46	1,202	4	759	_		-
Option A	453	2,110	447	2,123	6	1,132	-		-		-
Option B	345	1,729	323	1,781	21	992	1	347	-		-
Option C	173	1,938	172	1,946	1	480	-	-	-	<u> </u>	_
					Hyt	orid					
Total	289	\$ 1,961	276	\$ 1,998	12	\$ 1,134	1	\$ 1,653	_	\$	_
Maximum	138	1,843	133	1,868	5	1,186	-	-	-		-
Option 1	24	1,590	24	1,590	_	-	-	-			-
Option 2	52	1,715	49	1,746	2	991	1	1,653	-		_
Option 3	36	2,388	35	2,427	1	1,023	-	-	-		-
Option 4	20	2,772	18	2,982	2	886	-	-	_		-
Option 5	19	2,299	17	2,398	2	1,452	-	-		<u> </u>	_

Police and Firefighters

	Total		Ser	vice	Ordinary	Disability	Accidenta	l Disability	Oth	er
Type of Option	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	2,962	\$ 3,120	2,794	\$ 3,232	38	\$ 859	130	\$ 1,378	-	\$ -
Maximum	79	2,560	55	3,144	3	830	21	1,278	-	-
Option 1	29	2,914	22	3,108	-	-	7	2,305	-	-
Option 2	85	3,202	74	3,457	7	1,337	4	1,747	-	-
Option 3	20	3,443	17	3,805	2	1,110	1	1,951	-	-
Option 4	1,605	3,437	1,557	3,501	12	1,002	36	1,453	-	-
Option 5	1,144	2,708	1,069	2,822	14	467	61	1,227	_	-

General Employees - New Retirees

	To	tal	Se	rvice	Ordinary	Disability	Accidenta	l Disability	Ot	her
Type of Option	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	727	\$ 1,414	689	\$ 1,445	34	\$ 776	4	\$ 1,369	_	\$ -
					Contrib	utory				
Total Maximum Option 1 Option 2 Option 3 Option 4 Option 5	161 27 5 25 7 70 27	\$ 2,162 2,235 1,101 2,667 2,838 2,178 1,602	159 27 5 24 7 69 27	\$ 2,171 2,235 1,101 2,717 2,838 2,187 1,602	1 - - 1 - -	\$ 1,479 - - 1,479 - - -	1 - - - 1	\$ 1,541 - - - - 1,541	- - - - -	\$ - - - - -
					Noncontr	ibutory				
Total Maximum Option A Option B Option C	371 165 99 94 13	\$ 1,093 1,047 1,156 1,040 1,583	348 157 96 82 13	\$ 1,120 1,066 1,157 1,106 1,583	21 7 2 12	\$ 638 647 905 588	2 1 1 -	\$ 1,229 910 1,547 -	- - - -	\$ - - - -
					Hybi	rid				
Total Maximum Option 1 Option 2 Option 3 Option 4	195 75 16 45 33 18	\$ 1,405 1,390 1,668 1,485 1,290 1,414	182 72 15 42 30 16	\$ 1,434 1,400 1,697 1,510 1,322 1,501	12 2 1 3 3 2	\$ 960 960 1,244 1,133 971 717	1 1 - - -	\$ 1,479 1,479 - - - -	- - - -	\$ - - - - -
Option 5	8	1,028	7	1,088	1	611	-	-	-	

Teachers - New Retirees

	То	tal	Ser	vice	Ordinary	Disability	Accidenta	l Disability	Ot	her
Type of Option	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	165	\$ 2,044	161	\$ 2,064	4	\$ 1,207		\$ -		\$ -
				,	Contril	outory				
Total Maximum	38 10	\$ 3,145 3,121	37 9	\$ 3,167 3,212	1 1	\$ 2,304 2,304	-	\$ -		\$ -
Option 1	4	3,073	4	3,073	-	- :	-	-	-	-
Option 2	1	1,095	1	1,095	-	-	-	-	-	-
Option 3	3	5,657	3	5,657	-	-	-	-	-	-
Option 4	14	2,995	14	2,995	-	-	-	-	-	-
Option 5	6	2,666	6	2,666		-	-		<u>-</u>	<u> </u>
				_	Noncont	ributory				
Total	81	\$ 1,719	79	\$ 1,743	2	\$ 780	-	\$ -	-	\$ -
Maximum	50	1,814	50	1,814	-	_	-	-	-	-
Option A	12	2,122	12	2,122	-	-		-	-	-
Option B	14	1,290	12	1,375	2	780	-			-
Option C	5	1,009	5	1,009	-	_	-	-	-	-
					Hyt	orid				
Total	46	\$ 1,705	45	\$ 1,721	1	\$ 965	_	\$ -	_	\$ -
Maximum	22	1,619	22	1,619	-	-	-	_	-	-
Option 1	5	1,070	5	1,070	-	-	_	-	-	-
Option 2	9	1,775	9	1,775	-	-	-	-	-	-
Option 3	2	3,156	2	3,156	-	-	-	-	-	-
Option 4	5	2,259	5	2,259	-	-	-	-	-	1 - 1
Option 5	3	1,291	2	1,454	1	965	-	-	-	-

Police and Firefighters - New Retirees

	Total		Service		Ordinary Disability		Accidental Disability		Other	
		Average		Average		Average		Average		Average
Type of Option		Monthly		Monthly		Monthly	-	Monthly		Monthly
	Number	Pension	Number	Pension	Number	Pension	Number	Pension	Number	Pension
Total	67	\$ 4,119	67	\$ 4,119	-	\$ -	-	\$ -	-	\$ -
Maximum	6	5,142	6	5,142	-	-	-	-	a -	-
Option 1	1	-	1	4,485	-	_	-	-	-	-
Option 2	8	3,094	8	3,094	-	-	-	-	-	-
Option 3	-	-	-	-	-	-	-	-	-	-
Option 4	43	4,303	43	4,303	-	-	-	-	-	-
Option 5	9	3,428	9	3,428	<u>-</u>	-	-	-	-	-



Definition of Actuarial Terms

- 1. Actuarial Accrued Liability for benefits payable in the future to present members, it will equal the present value of benefits payable in the future to them less the present value of future normal costs.
- 2. Actuarial Assumptions assumptions as to future experience under the ERS. Current actuarial assumptions are detailed in Table 21 of the current annual valuation report. Assumptions include future fund earnings rate, rates of future salary increases, and rates of death (both before and after retirement), disability, retirement, and withdrawal.
- 3. Actuarial Gain or Actuarial Loss a measure of the difference between actual experience and assumed experience of the ERS. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, actuarial liabilities emerge which may be the same as forecasted, or they may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the ERS's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
- 4. Actuarial Liabilities the actuarially determined present value of future benefits to be provided by the ERS. There are separate actuarially determined present values for retired members and non-retired members (either active or inactive). When applied to active members, it takes into account benefits which will be earned through future service and future salary increases.
- 5. Actuarial Value of Present Assets the value of present ERS assets for valuation purposes. This value is calculated under a four-year phase-in of the excess (shortfall) between expected and actual income return.
- 6. Actuarially Determined values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
- 7. Decrements those types of activities by members of the ERS which cause them no longer to be members, i.e., death, retirement, disability, and withdrawal. It is a general term referring to any or all of these membership-terminating events.

- 8. Defined Benefits in a retirement plan, benefits which are defined by a specific formula applied to specific member compensation and/or specific years of service. The amount of the benefit is not a function of contributions or actual earnings on those contributions.
- 9. Defined Contributions in a retirement plan, periodic contributions to the plan which are defined as a specific percent of compensation.
- 10. Experience Study a periodic review and analysis of the actual experience of the ERS which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
- 11. Funding Period the number of years in the future that will be required to fund (i.e., pay off or eliminate) the unfunded actuarial accrued liability, based on the actuarial assumptions and assuming no future actuarial gains or losses.
- 12. Future Benefits benefits specified in the law which will become payable at some time in the future when the member satisfies the requirement to receive such benefits.
- 13. Future Contributions contributions to be made by the member or the employers in the future.
- 14. *Normal Cost* the actuarial cost to fund the benefits provided by the ERS were the funding to begin at date of hire.
- 15. Present Value the actuarially determined lump sum value as of the valuation date of a series of payments to be made in the future, where the lump sum value is equal to the sum of the discounted value of each future payment. The discounted value of each payment is the product of (a) the amount of the payment, (b) the probability that the payment will be made (based on the current actuarial assumptions as to future experience), and (c) the time value of money (based on the current assumed interest rate).
- 16. Unfunded Actuarial Accrued Liability that portion of the actuarial accrued liability (including the present value of benefits presently being paid to retired members) that exceeds the value of current assets.