

**EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF
HAWAII**

**REPORT TO BOARD OF TRUSTEES ON THE 87TH ANNUAL
ACTUARIAL VALUATION**

FOR THE YEAR ENDING JUNE 30, 2012

December 31, 2012

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, 2012

We certify that the information contained in the 2012 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, 2012.

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.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

The actuarial accrued liability, the unfunded actuarial accrued liability (UAAL), and the determination 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, 2012, ERS's underfunded status has increased due to continued recognition of these market investment losses. However, the System had an offsetting liability experience gain which was caused primarily by lower than expected salary increases. The UAAL is now \$8.441 billion.

The 2011 Legislature made significant changes to the future employer contribution rates. The current 21.00% for Police and Fire employees will gradually increase to 25.00%, and the 15.50% for All Other Employees will gradually increase to 17.00%. The Legislature also made changes to the benefits and member contribution rates for employees hired after June 30, 2012. Because these changes result in significantly higher contributions towards the unfunded liability in the future than in the current year, we believe it is more appropriate to determine the funding period using an open group projection rather than a static mathematical formula, which assumes that all amortization payments in the future will be the same percentage of pay as in the current year.

Based on the future increases in the employer contribution rates and the changes to the benefits and member contributions of future employees, we have determined that the funding period for paying off the UAAL of the System (in aggregate) is 30 years. Because this period does not exceed 30 years, the financing objectives of ERS are currently being realized. Hawaii Revised Statutes §88-122(e)(1) state that the employer contribution rates are subject to adjustment when the funding period is in excess of 30 years.

Due to the additional investment losses incurred in FY 2012, the System is now deferring \$957 million in deferred investment losses (compared with \$300 million last year). Without offsetting gains, these losses will increase the unfunded liability and possibly lengthen the funding period as they are recognized in future valuations.

BENEFIT PROVISIONS AND LEGISLATIVE CHANGES

As discussed above, there were significant changes to the future contribution requirements and benefit provisions of future members of the System enacted by the 2011 Legislature. In addition, changes to counteract perceived pension spiking issues were made by the 2012 Legislature. While these changes have been reflected in the determination of the funding period as described above, they have not been reflected in the determination of the liabilities included in this valuation since this valuation does not include any members impacted by the changes. Please see our discussion of these changes in Section F. See Table 16 of this report for more details on the benefit provisions for current members of the System.

ASSUMPTIONS AND METHODS

The actuarial assumptions used were adopted by the Board in December of 2010 based on the recommendations provided by an Experience Study performed by us. A change in the investment return assumption was recommended to the Board as part of the recommended changes. However, at that time the investment return assumption was set by statute. As part of the legislative changes made to the system by the 2011 Legislature, the investment return assumption was lowered to the recommended rate of 7.75% effective with the 2011 valuation. In addition, the Board of Trustees was given the authority to set this assumption for fiscal years after 2011. Therefore, this is the first valuation where the Board is adopting the investment return assumption. The assumption remains unchanged from last year at 7.75%.

There have been no changes to the assumptions or methods since the prior valuation. 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. 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, 2012, 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 Actuary, a Member of the American Academy of Actuaries and 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.

Sincerely,



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



Lewis Ward
Consultant



Linna Ye, ASA, MAAA
Actuary

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SECTION A

EXECUTIVE SUMMARY

Executive Summary

The following table summarizes the key results of the June 30, 2012 actuarial valuation of the Employees' Retirement System of the State of Hawaii (ERS).

Item	2012	2011
Membership <ul style="list-style-type: none"> • Number of <ul style="list-style-type: none"> - Active members - Retirees and beneficiaries - Inactive, vested - Total • Covered payroll for active members • Actual benefit payments and refunds 	<div style="text-align: right;"> 65,599 40,774 6,909 <hr style="width: 100%;"/> 113,282 \$3,706.1 million \$1,022.6 million </div>	<div style="text-align: right;"> 65,310 39,689 6,649 <hr style="width: 100%;"/> 111,648 \$3,731.4 million \$968.1 million </div>
Assets <ul style="list-style-type: none"> • Actuarial value • Market value • Return on actuarial value • Return on market value • Employer contributions during fiscal year • External cash flow % 	<div style="text-align: right;"> \$12,242.5 million \$11,285.9 million 5.1% (0.6%) \$548,353,394 (2.7%) </div>	<div style="text-align: right;"> \$11,942.8 million \$11,642.3 million 7.1% 20.8% \$534,857,778 (1.9%) </div>
Actuarial Information <ul style="list-style-type: none"> • Total normal cost % (employee + employer) • Unfunded actuarial accrued liability (UAAL) • Funded ratio (based on actuarial assets) • Funded ratio (based on market assets) • Funding period (years)* • Employer contribution rate % of projected payroll** <ul style="list-style-type: none"> For FY beginning July 1 • GASB ARC for FY 2013 % of projected payroll <ul style="list-style-type: none"> Police & Fire Employees All Other Employees Composite - All Employees 	<div style="text-align: right;"> 11.05% \$8,440.9 million 59.2% 54.6% 30.0 16.11% 25.79% 17.72% 18.64% </div>	<div style="text-align: right;"> 11.06% \$8,154.2 million 59.4% 57.9% 25.0 15.52% 25.47% 17.67% 18.56% </div>

* Funding Period based on actuarial value of assets, scheduled increases in employer contribution rates, and an open group projection reflecting changes in benefits and future member contribution rates.

** Weighted average of 21.00% Contribution Rate for Police and Firefighters and 15.50% Contribution Rate for All Other Employees for FY 2013, 19.70% and 15.00% respectively for FY 2012.

SECTION B

INTRODUCTION

Introduction

The results of the June 30, 2012 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 report-- benefit 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 C
FUNDED 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 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 \$24.1 billion. Table 2 shows the development of this total for the current year and the prior year.
- The individual 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 individual 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 20.18% of pay for Police and Fire employees and 9.88% for All Other employees. It includes all of the employees' contribution (if any) and the employers' normal cost rate.
- A part of the normal cost is paid by the employee contributions of 12.20% of pay for Police and Firefighters, leaving 7.98% of pay to be funded by the employers. Thus the current year's employer normal cost for Police and Firefighters is deemed to be 7.98% of the valuation payroll. As for the All Other Employees group, the average weighted effective employee contribution rate is 4.19% of pay, leaving 5.69% of pay to be funded by the employers. This is shown in Line 3 of Table 1.
- The UAAL is \$8.441 billion for 2012, an increase from \$8.154 billion in 2011. As indicated in Table 1, the UAAL equals the difference between the total actuarial accrued liability (Item 7) and current actuarial assets (Item 8).

- 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. While the determination of the funding period under Hawaii Revised Statutes §88-122(e)(1) is not required to be GASB compliant, we have retained the GASB compliant assumption that active membership will not grow in our open group projection.
- As shown in Item 10 of Table 1 and on Table 9c, the period to fund the UAAL is 32 years for Police and Fire and 30 years for the All Other Employees group. The aggregate funding period for ERS is 30 years. Since the aggregate funding period based on the contribution rates does not exceed 30 years, the rates are adequate to meet the requirements of Hawaii Revised Statutes §88-122(e)(1).
- Note that GASB No. 25 requires that the Annual Required Contribution (ARC) be determined in a manner that assumes the current year's amortization rate will be the same in the future except for payroll growth. Please see section G of this report for a more thorough discussion of this issue as well as the ARC determined by this valuation.

As of the valuation date, ERS has a funded ratio of 59.2%, based on the actuarial value of assets.

Due to the significant changes in the future contribution rates and benefits for employees hired after June 30, 2012, the ERS funding policy uses an open group projection for determining how many years it will take to eliminate the unfunded liabilities of the System. As shown on Table 9c, the System is expected to be fully funded in 2042 which is 30 years from now. Therefore, the funding period is equal to 30 years. The open group projection assumes that the number of active members will remain constant and that there will be no actuarial gains or losses on liabilities or investments.

SECTION D

ANALYSIS OF CHANGES

Analysis of Changes

Section C has noted that the unfunded actuarial accrued liability (UAAL) is \$8.441 billion as of June 30, 2012 compared to the \$8.154 billion UAAL for 2011.

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 7.75%.

As shown in Item 5 of Table 9b, the expected value of actuarial assets as of June 30, 2012 is \$12.561 billion. As developed in Table 6, the actual value of actuarial assets as of the valuation date is \$12.242 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 \$318.9 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 5.05% (as shown in Item B4 of Table 7) being less than the assumed rate of return.

The actuarial asset valuation method is intended to smooth out year-to-year fluctuations in the market return. The Expected actuarial value of assets is calculated and compared to the actual market value of assets. One fourth of the difference between these numbers is then recognized and added to the expected actuarial value of assets to get the final actuarial value of assets. This method has the advantage of more quickly converging towards the market value in years when the returns go in the opposite direction of the prior years.

After an excellent year in FY 2011, the investment markets had a poor year in FY 2012 resulting in a negative return of -0.62% on the market value of assets. The rate of return for the actuarial value was 5.05%, which is greater than the market return due to the smoothing methodology used in the determination of the actuarial value of assets. The actuarial value of assets exceeds the market value of assets by \$957 million, so there are \$957 million in deferred investment losses still to be recognized in the actuarial value of assets. Please note that as of the last valuation there was only \$300 million in deferred losses, so about \$657 million in deferred investment losses were added in this valuation.

Table 9a indicates that the total actuarial experience gain for the 2011/2012 plan year was \$26.8 million (Item 7). As noted above, the actuarial investment loss was equal to \$318.9 million. This means that there was a liability gain during the year equal to \$345.6 million. This experience gain is primarily due to actual salary increases being less than the current salary scale assumption.

Table 9c shows the current year's valuation results plus a 30-year open group projection of the System's assets and liabilities. As discussed previously, this projection assumes no actuarial gains or losses in the actuarial liabilities or the actuarial value of assets. In addition, the projection reflects the changes made to the future employer contribution rates as well as the changes to the benefits and member contribution rates of employees hired after June 30, 2012. As may be seen by

examining this table, unfunded liability of the System (Column 7) is expected to be eliminated in fiscal year 2042, which is 30 years from this valuation. Therefore, for the purpose of satisfying Hawaii Revised Statutes §88-122(e)(1) the funding period is considered to be 30 years.

SECTION E
ERS ASSETS

ERS Assets

Table 4 presents a summary of the market value of assets held by the ERS. About 68% of the total assets available for benefits are held in equities (including alternative investments) and real estate compared to about 75% 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, determines the actuarial value of assets as the expected actuarial value of assets plus 25% of the difference between the actual market value of assets and the expected actuarial value of assets.

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 -0.62%, the return on the actuarial value was 5.05%. 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 7.75%.

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

SECTION F

BENEFIT 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 significant changes made by the 2011 Legislature to the benefit provisions of the System for employees hired after June 30, 2012. Because the Board has chosen to use the Individual Entry Age Normal Cost method, the normal cost and accrued liabilities of this valuation were not impacted by the changes in the benefit provisions. The changes in the benefit provisions will begin to impact the normal cost and accrued liabilities with the June 30, 2013 valuation, which will be the first valuation with active members covered under the new benefit provisions.

However, as discussed previously, we did reflect the new benefit provisions in the projection shown on Table 9c, which is used to establish the funding period of the System. Therefore, we believe it is important to briefly discuss the major changes in the benefit provisions for employees hired after June 30, 2012. The major changes are outlined below:

- The benefit multiplier was decreased by 0.25% for most employee groups (i.e. 1.75% for new Hybrid Plan employees and 2.25% for new Contributory Plan Police and Fire employees)
- The retirement eligibility for normal retirement was changed to age 60 with 30 years of service or age 65 with 10 years of service for new Hybrid Plan employees
- The retirement eligibility for normal retirement was changed to age 55 with 25 years of service or age 60 with 10 years of service for Police and Fire Employees
- The period for determining average final compensation was increased to 5 years
- The eligibility for a deferred vested annuity was increased to 10 years
- The post-retirement annuity increase was decreased to 1.5% per year
- The matching rate on the hybrid plan funds was decreased to 20%
- The member contribution rates were increased by 2% of pay (8.00% for Hybrid Plan employees, 14.2% for Police and Fire employees, and 11.75% for Hybrid Plan employees entitled to the age 55 with 25 years of service normal retirement eligibility)

In addition, the 2012 Legislature eliminated non-base pay from the definition of pay for both benefit and contribution purposes for employees hired after June 30, 2012. The Legislature also added an employer contribution surcharge for employers whose members retire after June 30, 2012 and whose benefits are considered to have excessive amounts of non-base pay.

There were no changes passed since the last valuation that had an actuarial impact on current employees.

Legislation was also enacted in 2011 that impacted the employer contribution rates beginning in fiscal year 2013. The employer contribution rates for Police and Fire employees will increase according to the following schedule: 22.00% in FY2013, 23.00% in FY 2014, and 24.00% in FY 2015, and 25.00% in FY 2016 and beyond. The employer contribution rates for All Other Employees will increase according to the following schedule: 15.50% in FY2013, 16.00% in FY 2014, and 16.50% in FY 2015, and 17.00% in FY 2016 and beyond.

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. The Hybrid plan membership has since grown to more than 40,000 members. 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. We have determined the GASB No. 25 Annual Required Contribution (ARC) using a 30-year amortization period. The ARC for fiscal year 2013 is 18.64% of pay for all employees (if determined separately, the ARC is 25.79% for Police and Fire and 17.72% for All Other Employees). The ARC has been determined based on the current members only and does not reflect the impact of changes to the benefits of future employees.

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, the new salary scale assumption effective June 30, 2007, the new assumptions effective June 30, 2011.

The GASB has recently revised the disclosure requirements for Governmental pension plans and their sponsors. These new statements (No. 67 & 68) are not yet effective and are not reflected in this report.

SECTION H

ACTUARIAL ASSUMPTIONS AND METHODS

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.

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 (individual normal cost). This method produces a relatively level pattern of funding for individual employees over time. We believe this method is appropriate for ERS.

In prior years, the Ultimate Normal Cost variation of the Entry Age Normal actuarial funding method was used. However, due to the reduction in benefits for future hires adopted by the 2011 Legislature and the release of the GASB preliminary views regarding disclosure of pension liabilities, the ERS Board in consultation with its actuary elected to switch, effective with the June 30, 2011 valuation, to the Individual Normal Cost variation of the Entry Age Normal actuarial funding method, for the purpose of determining the actuarial accrued liability and normal cost of ERS.

There have been no changes in the assumptions or methods since the prior valuation.

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

SECTION I

MEMBERSHIP DATA

Membership Data

Membership data was provided in electronic files, via a secured file transfer protocol, by the staff. Data for active members include sex, birthdate, service, pay rate as of March 2012, 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 289 members from 65,310 to 65,599. These 65,599 active members are distributed as follows:

Category	Number	% of Total
(1)	(2)	(3)
Police & Fire	4,894	7.5%
Contributory	1,605	2.4%
Noncontributory	18,970	28.9%
Hybrid Plan	<u>40,130</u>	<u>61.2%</u>
Total	65,599	100.00%

Total payroll decreased 0.7% since last year. The salary figures reported this year continued to be impacted by budgetary reductions to the members' pay. These reductions in pay should be temporary and compensation levels may return to normal when the budgetary problems end. Because we use the reported pay in projecting both the future benefits of active employees and the future contributions to the System, it is very important that we use a compensation amount that projects out into the future at a level that is expected. Using the artificially lowered pays as a result of the temporary budgetary reductions would result in an understatement of the projected future

benefits (as well as future contributions). This figure is then increased by one year's pay increase to determine the member's rate of pay at July 1, 2012.

Average age and average service of the active members both increased this year. Average age increased from 47.4 years to 47.6 years, while average service increased from 13.4 years to 13.5 years.

SECTION J

SUMMARY AND CLOSING COMMENTS

Summary and Closing Comments

To summarize the results of the actuarial valuation of the Employees' Retirement System as of June 30, 2012, 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 poor investment results have resulted in an increase in the estimated time to eliminate the unfunded liability of the System from 25 years to 30 years. The funding period is equal to the 30-year maximum period specified by Hawaii Revised Statute 88-122(e)(1).

The negative return on investments increased the amount of unrecognized investment losses from \$300 million last year to about \$957 million this year. In the absence of offsetting gains the funded position of the plan should decline over the next several valuations.

There are still concerns for the future. The key ones are as follow:

- The actuarial asset method is still deferring \$957 million in deferred investment losses.
- The funded ratio based on the market value of assets is still only 55%.
- The current economic condition in the State. The overall levels of membership and payroll have direct impact on amount of contributions into the System. If payroll does not grow, then the contribution levels will not grow as anticipated.

SECTION K

ACTUARIAL CERTIFICATION STATEMENT

Actuarial Certification Statement

	Police and Firefighters June 30, 2012 (1)	All Other Employees June 30, 2012 (2)	All Employees June 30, 2012 (3)
1. Gross normal cost as a percentage of pay	20.18%	9.88%	11.05%
2. Present value of future benefits			
a. Active employees	\$ 2,558,073,998	\$ 10,467,797,063	\$ 13,025,871,061
b. Inactive members	28,224,454	356,200,363	384,424,817
c. Pensioners and beneficiaries	<u>1,778,387,939</u>	<u>8,928,803,574</u>	<u>10,707,191,513</u>
d. Total	\$ 4,364,686,391	\$ 19,752,801,000	\$ 24,117,487,391
3. Present value of future employee and employer contributions			
a. Present value of future normal costs	\$ 787,366,976	\$ 2,646,717,597	\$ 3,434,084,573
b. Present value of future employee contributions	<u>477,712,638</u>	<u>1,143,105,560</u>	<u>1,620,818,198</u>
c. Present value of future employer normal costs (Item 3a - Item 3b)	\$ 309,654,338	\$ 1,503,612,037	\$ 1,813,266,375
4. Actuarial accrued liability (Item 2d - Item 3a)	\$ 3,577,319,415	\$ 17,106,083,403	\$ 20,683,402,818
5. Actuarial value of assets			
a. Annuity Savings Fund	\$ 776,302,170	\$ 1,020,142,000	\$ 1,796,444,170
b. Pension Accumulation Fund	<u>1,489,065,019</u>	<u>8,956,984,619</u>	<u>10,446,049,638</u>
c. Total	\$ 2,265,367,189	\$ 9,977,126,619	\$ 12,242,493,808
6. Unfunded actuarial accrued liability	\$ 1,311,952,226	\$ 7,128,956,784	\$ 8,440,909,010
7. Adequacy of contribution rates			
a. Statutory Contribution Rate for Fiscal Year Fiscal Year 2013	21.00%	15.50%	16.11%
b. Funding Period in years as of June 30, 2012*	32	30	30

* The Funding Period is calculated using an open group projection which reflects the impact of both the new employer contribution rates schedule and the benefits and member contribution rates for employees hired after June 30, 2012.

Actuarial Certification Statement

The actuarial valuation as of June 30, 2012 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 December 20, 2010 based on the actuary's actuarial experience investigation report covering the five-year period July 1, 2005 – June 30, 2010. The investment return assumption is formally adopted by the Board effective with the June 30, 2012 actuarial valuation (this assumption was previously prescribed by statute). 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 Actuary, 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

SECTION L

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Development of Employer Cost

	Police and Firefighters June 30, 2012 (1)	All Other Employees June 30, 2012 (2)	All Employees June 30, 2012 (3)
1. Payroll (adjusted for one year's pay increase)	\$ 430,059,235	\$ 3,459,916,960	\$ 3,889,976,195
2. Gross normal cost (Table 3)	20.18%	9.88%	11.05%
3. Employer normal cost rate (Table 3)	7.98%	5.69%	5.97%
4. Present value future benefits (Table 2)	\$ 4,364,686,391	\$ 19,752,801,000	\$ 24,117,487,391
5. Present value future employer normal cost	\$ 309,654,338	\$ 1,503,612,037	\$ 1,813,266,375
6. Present value future employee contributions	\$ 477,712,638	\$ 1,143,105,560	\$ 1,620,818,198
7. Actuarial accrued liability (Item 4 - Item 5 - Item 6)	\$ 3,577,319,415	\$ 17,106,083,403	\$ 20,683,402,818
8. Actuarial value of assets	\$ 2,265,367,189	\$ 9,977,126,619	\$ 12,242,493,808
9. Unfunded actuarial accrued liability (UAAL) (Item 7 - Item 8)	\$ 1,311,952,226	\$ 7,128,956,784	\$ 8,440,909,010
10. Funding Period*	32.0	30.0	30.0

	Police and Firefighters June 30, 2011 (1)	All Other Employees June 30, 2011 (2)	All Employees June 30, 2011 (3)
1. Payroll (adjusted for one year's pay increase)	\$ 436,196,835	\$ 3,479,760,469	\$ 3,915,957,304
2. Gross normal cost (Table 3)	20.29%	9.87%	11.06%
3. Employer normal cost rate (Table 3)	8.09%	5.78%	6.06%
4. Present value future benefits (Table 2)	\$ 4,254,119,130	\$ 19,316,790,342	\$ 23,570,909,472
5. Present value future employer normal cost	\$ 321,752,959	\$ 1,541,778,348	\$ 1,863,531,307
6. Present value future employee contributions	\$ 488,554,929	\$ 1,121,892,868	\$ 1,610,447,797
7. Actuarial accrued liability (Item 4 - Item 5 - Item 6)	\$ 3,443,811,242	\$ 16,653,119,126	\$ 20,096,930,368
8. Actuarial value of assets	\$ 2,181,269,184	\$ 9,761,484,176	\$ 11,942,753,360
9. Unfunded actuarial accrued liability (UAAL) (Item 7 - Item 8)	\$ 1,262,542,058	\$ 6,891,634,950	\$ 8,154,177,008
10. Funding Period	25.0	25.0	25.0

* Effective with the June 30, 2011 valuation, the Funding Period is calculated using an open group projection which reflects the impact of both the new employer contribution rates schedule and the benefits and member contribution rates for employees hired after June 30, 2012.

Actuarial Present Value of Future Benefits

	Police and Firefighters June 30, 2012 (1)	All Other Employees June 30, 2012 (2)	All Employees June 30, 2012 (3)
1. Active members			
a. Service retirement benefits	\$ 2,427,038,150	\$ 9,472,785,286	\$ 11,899,823,436
b. Termination Benefits	81,234,064	675,204,395	756,438,459
c. Survivor benefits	38,411,081	229,671,592	268,082,673
d. Disability retirement benefits	11,390,703	90,135,790	101,526,493
e. Total	<u>\$ 2,558,073,998</u>	<u>\$ 10,467,797,063</u>	<u>\$ 13,025,871,061</u>
2. Retired members			
a. Service retirement	\$ 1,681,198,962	\$ 8,398,931,943	\$ 10,080,130,905
b. Disability retirement	28,580,600	151,834,521	180,415,121
c. Beneficiaries	68,608,377	378,037,110	446,645,487
d. Total	<u>\$ 1,778,387,939</u>	<u>\$ 8,928,803,574</u>	<u>\$ 10,707,191,513</u>
3. Inactive members			
a. Vested terminations	\$ 25,755,410	\$ 324,745,398	\$ 350,500,808
b. Nonvested terminations	2,469,044	31,454,965	33,924,009
c. Total	<u>\$ 28,224,454</u>	<u>\$ 356,200,363</u>	<u>\$ 384,424,817</u>
4. Total actuarial present value of future benefits	<u>\$ 4,364,686,391</u>	<u>\$ 19,752,801,000</u>	<u>\$ 24,117,487,391</u>

	Police and Firefighters June 30, 2011 (1)	All Other Employees June 30, 2011 (2)	All Employees June 30, 2011 (3)
1. Active members			
a. Service retirement benefits	\$ 2,443,174,302	\$ 9,467,384,389	\$ 11,910,558,691
b. Termination Benefits	82,413,268	657,786,761	740,200,029
c. Survivor benefits	38,812,501	230,129,736	268,942,237
d. Disability retirement benefits	13,773,799	92,469,302	106,243,101
e. Total	<u>\$ 2,578,173,870</u>	<u>\$ 10,447,770,188</u>	<u>\$ 13,025,944,058</u>
2. Retired members			
a. Service retirement	\$ 1,554,457,246	\$ 8,029,263,146	\$ 9,583,720,392
b. Disability retirement	29,044,151	147,887,723	176,931,874
c. Beneficiaries	65,812,540	357,248,423	423,060,963
d. Total	<u>\$ 1,649,313,937</u>	<u>\$ 8,534,399,292</u>	<u>\$ 10,183,713,229</u>
3. Inactive members			
a. Vested terminations	\$ 23,710,215	\$ 310,828,475	\$ 334,538,690
b. Nonvested terminations	2,921,108	23,792,387	26,713,495
c. Total	<u>\$ 26,631,323</u>	<u>\$ 334,620,862</u>	<u>\$ 361,252,185</u>
4. Total actuarial present value of future benefits	<u>\$ 4,254,119,130</u>	<u>\$ 19,316,790,342</u>	<u>\$ 23,570,909,472</u>

Analysis of Normal Cost

	Police and Firefighters June 30, 2012 (1)	All Other Employees June 30, 2012 (2)	All Employees June 30, 2012 (3)
1. Normal cost as a percent of pay			
a. Service retirement benefits	17.29%	7.40%	8.53%
b. Deferred termination benefits	0.84%	0.79%	0.79%
c. Refunds	1.34%	1.24%	1.25%
d. Disability retirement benefits	0.18%	0.16%	0.16%
e. Survivor benefits	0.53%	0.29%	0.32%
f. Total	20.18%	9.88%	11.05%
2. Employee contribution rate	12.20%	4.19%	5.08%
3. Effective employer normal cost rate (Item 1f - Item 2)	7.98%	5.69%	5.97%

	Police and Firefighters June 30, 2011 (1)	All Other Employees June 30, 2011 (2)	All Employees June 30, 2011 (3)
1. Normal cost as a percent of pay			
a. Service retirement benefits	17.37%	7.42%	8.57%
b. Deferred termination benefits	0.84%	0.79%	0.79%
c. Refunds	1.35%	1.19%	1.21%
d. Disability retirement benefits	0.20%	0.17%	0.17%
e. Survivor benefits	0.53%	0.30%	0.32%
f. Total	20.29%	9.87%	11.06%
2. Employee contribution rate	12.20%	4.09%	5.00%
3. Effective employer normal cost rate (Item 1f - Item 2)	8.09%	5.78%	6.06%

Plan Net Assets
(Assets at Market or Fair Value)

Item (1)	Valuation as of	
	June 30, 2012 (2)	June 30, 2011 (2)
1. Cash and cash equivalents	\$ 525,423,925	\$ 479,890,833
2. Receivables:		
a. Accounts receivable and others	\$ 14,283,164	\$ 12,595,911
b. Investment sale proceeds	240,036,101	278,514,348
c. Accrued income	41,816,085	38,455,810
d. Employer contributions	17,049,280	17,961,027
e. Member contributions	4,309,283	4,439,724
f. Subtotal	<u>\$ 317,493,913</u>	<u>\$ 351,966,820</u>
3. Investments		
a. Equity securities	\$ 6,299,148,317	\$ 7,356,801,263
b. Fixed income securities	3,224,836,477	2,503,015,047
c. Real estate investments	1,234,105,797	1,126,471,644
d. Real estate mortgages	-	-
e. Alternative investments	597,080,284	523,988,259
f. Subtotal	<u>\$ 11,355,170,875</u>	<u>\$ 11,510,276,213</u>
4. Other		
a. Invested securities lending collateral	\$ 923,932,665	\$ 963,200,220
b. Equipment at cost, net of depreciation	7,337,058	8,374,154
c. Other assets	-	-
d. Subtotal	<u>\$ 931,269,723</u>	<u>\$ 971,574,374</u>
5. Total assets	\$ 13,129,358,436	\$ 13,313,708,240
6. Liabilities		
a. Bank overdraft	\$ -	\$ 7,716,253
b. Accounts payable	76,985,822	52,570,542
c. Investment commitments payable	553,877,713	385,591,146
d. Due to employers	-	-
e. Securities lending collateral	923,932,665	963,200,220
f. Notes payable	288,632,414	262,352,002
g. Total liabilities	<u>\$ 1,843,428,614</u>	<u>\$ 1,671,430,163</u>
7. Total market value of assets available for benefits (Item 5 - Item 6g)	\$ 11,285,929,822	\$ 11,642,278,077

Reconciliation of Plan Net Assets

	Year Ending	
	June 30, 2012 (1)	June 30, 2011 (1)
1. a. Value of assets at beginning of year	\$ 11,642,278,077	\$ 9,821,632,832
b. Adjustment due to post valuation changes in CAFR assets	<u>9,965,843</u>	<u>(2,621,029)</u>
c. Adjusted value of assets at beginning of year	\$ 11,652,243,920	\$ 9,819,011,803
2. Revenue for the year		
a. Contributions		
i. Member contributions	\$ 178,764,888	\$ 230,998,106
ii. Employer contributions	<u>548,353,394</u>	<u>534,857,778</u>
iii. Total	\$ 727,118,282	\$ 765,855,884
b. Income		
i. Interest, dividends, and other income	\$ 320,276,589	\$ 310,695,148
ii. Investment expenses	<u>(36,644,634)</u>	<u>(40,401,970)</u>
iii. Net	\$ 283,631,955	\$ 270,293,178
c. Net realized and unrealized gains (loss)	<u>\$ (342,794,865)</u>	<u>\$ 1,768,563,934</u>
d. Net income (loss)	\$ (59,162,910)	\$ 2,038,857,112
e. Total revenue	\$ 667,955,372	\$ 2,804,712,996
3. Expenditures for the year		
a. Refunds	\$ 7,187,606	\$ 7,901,509
b. Benefit payments	1,015,447,668	960,219,432
c. Administrative and miscellaneous expenses	<u>11,634,196</u>	<u>13,325,781</u>
d. Total expenditures	\$ 1,034,269,470	\$ 981,446,722
4. Increase (decrease) in net assets (Item 2e - Item 3d)	\$ (366,314,098)	\$ 1,823,266,274
5. Value of assets at end of year (Item 1c + Item 4)	\$ 11,285,929,822	\$ 11,642,278,077

Development of Actuarial Value of Assets

	Year Ending June 30, 2012	Year Ending June 30, 2011
1. Actuarial value of assets, beginning of year	\$ 11,942,753,360	\$ 11,345,618,006
2. Net new investments		
a. Contributions	\$ 727,118,282	\$ 765,855,884
b. Benefits paid	(1,015,447,668)	(960,219,432)
c. Refunds	(7,187,606)	(7,901,509)
d. Subtotal	(295,516,992)	(202,265,057)
3. Market value of assets at end of year	\$ 11,285,929,822	\$ 11,642,278,077
4. Expected return	\$ 914,112,102	\$ 899,558,838
5. Expected actuarial value of assets, end of year	\$ 12,561,348,470	\$ 12,042,911,787
6. Excess/(shortfall) return (Item 3-Item 5)	\$ (1,275,418,648)	\$ (400,633,710)
7. Excess/(shortfall) recognized (25% of Item 6)	\$ (318,854,662)	\$ (100,158,428)
8. Actuarial value of assets as of June 30, 2012 (Item 5 + Item 7)	\$ 12,242,493,808	\$ 11,942,753,360
9. Ratio of actuarial value to market value	108.5%	102.6%

Estimation of Yields

	<u>June 30, 2012</u> (1)	<u>June 30, 2011</u> (2)
A. Market value yield		
1. Beginning of year market assets	\$ 11,652,243,920	\$ 9,819,011,803
2. Investment income		
a. Change in assets (Item 3 - Item 1)	\$ (366,314,098)	\$ 1,823,266,274
b. Cash Flow (excluding expenses)	<u>(295,516,992)</u>	<u>(202,265,057)</u>
c. Total investment income based on market value (Item 2a less Item 2b)	\$ (70,797,106)	\$ 2,025,531,331
3. End of year market assets	\$ 11,285,929,822	\$ 11,642,278,077
4. Estimated dollar weighted market value yield (net of investment and administrative expenses)	(0.62%)	20.84%
B. Actuarial value yield		
1. Beginning of year actuarial assets	\$ 11,942,753,360	\$ 11,345,618,006
2. Investment income (based on asset valuation method)		
a. Change in assets (Item 3 - Item 1)	\$ 299,740,448	\$ 597,135,354
b. Cash Flow	<u>(295,516,992)</u>	<u>(202,265,057)</u>
c. Total investment income based on market value (Item 2a less Item 2b)	\$ 595,257,440	\$ 799,400,411
3. End of year actuarial assets	\$ 12,242,493,808	\$ 11,942,753,360
4. Estimated actuarial value yield (net of investment and administrative expenses)	5.05%	7.11%

Allocation of Cash and Investments

	<u>June 30, 2012</u>	<u>June 30, 2011</u>
	(1)	(2)
1. Cash and short-term equivalents	4.4%	4.0%
2. Fixed income securities	27.1%	20.9%
3. Equity securities	53.1%	61.3%
4. Real estate	10.4%	9.4%
5. Other	<u>5.0%</u>	<u>4.4%</u>
6. Total investments	100.0%	100.0%

Total Experience Gain or Loss

Item	Police and Firefighters	All Other Employees	All Employees
(1)	(2)	(3)	(4)
A. Calculation of total actuarial gain or loss			
1. Unfunded actuarial accrued liability (UAAL), as of June 30, 2011	\$ 1,262,542,058	\$ 6,891,634,951	\$ 8,154,177,009
2. Normal cost for the year (employer and employee)	\$ 88,504,338	\$ 332,038,853	\$ 420,543,191
3. Less: contributions and assessments for the year	\$ (124,996,620)	\$ (602,121,662)	\$ (727,118,282)
4. Interest at 7.75 %			
a. On UAAL	\$ 97,847,009	\$ 534,101,709	\$ 631,948,718
b. On normal cost	3,429,543	12,866,506	16,296,049
c. On contributions	(4,843,619)	(23,332,214)	(28,175,833)
d. Total	\$ 96,432,933	\$ 523,636,001	\$ 620,068,934
5. Expected UAAL as of June 30, 2012 (Sum of Items 1 - 4)	\$ 1,322,482,709	\$ 7,145,188,143	\$ 8,467,670,852
6. Actual UAAL as of June 30, 2012	\$ 1,311,952,226	\$ 7,128,956,784	\$ 8,440,909,010
7. Total gain (loss) for the year (Item 5 - Item 6)	\$ 10,530,483	\$ 16,231,359	\$ 26,761,842
B. Source of gains and losses			
8. Asset gain (loss) for the year (Table 9b)	\$ (59,001,287)	\$ (259,853,374)	\$ (318,854,661)
9. Gain (loss) due to change in actuarial assumptions	-	-	-
10. Gain (loss) due to change in actuarial method	-	-	-
11. Other liability gain (loss)	69,531,770	276,084,733	345,616,503
12. Change in benefit provisions	-	-	-
13. Total gain (loss) for the year	\$ 10,530,483	\$ 16,231,359	\$ 26,761,842

Investment Experience Gain or Loss

Item (1)	June 30, 2012 (2)	June 30, 2011 (3)
1. Actuarial assets, beginning of year	\$ 11,942,753,360	\$ 11,345,618,006
2. Total contributions during year	\$ 727,118,282	\$ 765,855,884
3. Benefits and refunds paid	\$ (1,022,635,274)	\$ (968,120,941)
4. Assumed net investment income at 7.75%		
a. Beginning of year assets	\$ 925,563,385	\$ 907,649,440
b. Contributions	28,175,833	30,634,235
c. Benefits and refunds paid	(39,627,117)	(38,724,838)
d. Total	\$ 914,112,101	\$ 899,558,837
5. Expected actuarial assets, end of year (Sum of items 1 through 4)	\$ 12,561,348,469	\$ 12,042,911,786
6. Actual actuarial assets, end of year	\$ 12,242,493,808	\$ 11,942,753,360
7. Asset gain (loss) for year (Item 6 - Item 5)	\$ (318,854,661)	\$ (100,158,426)
8. Asset gain (loss) as a percent of actuarial value of assets, end of year (Item 7 / Item 6)	(2.60%)	(0.84%)

Projection Results Based on June 30, 2012 Actuarial Valuation

Valuation as of June 30,	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2012	16.11%	\$ 3,890.0	\$ 627	\$ 20,683	\$ 12,242	\$ 8,441	59.2%
2013	16.67%	3,950.7	658	21,560	12,921	8,639	59.9%
2014	17.22%	4,047.0	697	22,473	13,619	8,854	60.6%
2015	17.77%	4,151.2	738	23,387	14,342	9,045	61.3%
2016	17.88%	4,263.6	762	24,298	15,090	9,208	62.1%
2017	17.88%	4,383.5	784	25,204	15,848	9,356	62.9%
2018	17.87%	4,510.7	806	26,105	16,611	9,493	63.6%
2019	17.87%	4,645.9	830	26,998	17,380	9,618	64.4%
2020	17.87%	4,789.1	856	27,885	18,159	9,726	65.1%
2021	17.86%	4,940.0	882	28,766	18,949	9,817	65.9%
2022	17.86%	5,098.9	911	29,639	19,753	9,886	66.6%
2023	17.85%	5,265.3	940	30,506	20,574	9,932	67.4%
2024	17.85%	5,439.0	971	31,365	21,415	9,950	68.3%
2025	17.84%	5,620.4	1,003	32,216	22,278	9,938	69.2%
2026	17.84%	5,809.8	1,036	33,057	23,166	9,890	70.1%
2027	17.83%	6,007.7	1,071	33,888	24,084	9,804	71.1%
2028	17.83%	6,215.2	1,108	34,710	25,037	9,673	72.1%
2029	17.82%	6,432.5	1,146	35,525	26,031	9,494	73.3%
2030	17.82%	6,659.7	1,187	36,334	27,074	9,260	74.5%
2031	17.82%	6,897.2	1,229	37,138	28,173	8,965	75.9%
2032	17.81%	7,145.2	1,273	37,940	29,337	8,603	77.3%
2033	17.81%	7,403.5	1,319	38,739	30,573	8,166	78.9%
2034	17.81%	7,674.0	1,367	39,538	31,892	7,646	80.7%
2035	17.81%	7,956.8	1,417	40,339	33,304	7,035	82.6%
2036	17.81%	8,252.2	1,469	41,146	34,823	6,323	84.6%
2037	17.81%	8,562.0	1,525	41,962	36,462	5,501	86.9%
2038	17.81%	8,886.7	1,583	42,793	38,237	4,556	89.4%
2039	17.81%	9,226.1	1,643	43,643	40,166	3,477	92.0%
2040	17.81%	9,580.9	1,707	44,518	42,267	2,251	94.9%
2041	17.81%	9,951.9	1,773	45,425	44,561	865	98.1%
2042	17.82%	10,338.9	1,842	46,370	47,068	(698)	101.5%

Employer Covered Payroll

	Police and Firefighters		All Other Employees		All Employees	
	March 31, 2012	March 31, 2011	March 31, 2012	March 31, 2011	March 31, 2012	March 31, 2011
	(1)	(2)	(3)	(4)	(5)	(6)
State of Hawaii	\$ 15,001,298	\$ 16,147,933	\$ 2,739,123,806	\$ 2,746,578,725	\$ 2,754,125,104	\$ 2,762,726,658
City & County of Honolulu	253,299,076	257,475,594	303,574,544	310,387,316	556,873,620	567,862,910
Board of Water Supply	-	-	31,476,461	34,776,750	31,476,461	34,776,750
County of Hawaii	61,075,867	62,569,047	83,221,946	85,148,233	144,297,813	147,717,280
County of Maui	54,979,802	53,977,022	90,674,962	92,475,132	145,654,764	146,452,154
County of Kauai	22,688,280	22,642,917	51,020,526	49,204,758	73,708,806	71,847,675
Total All Employers	\$ 407,044,323	\$ 412,812,513	\$ 3,299,092,245	\$ 3,318,570,914	\$ 3,706,136,568	\$ 3,731,383,427

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

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial		Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
			Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
June 30, 1997	\$ 7,268.5	\$ 8,001.9	\$ 733.4	90.8%	\$ 2,019.3	36.3%
June 30, 1998	7,906.2	8,492.0	585.8	93.1%	2,135.9	27.4%
June 30, 1999	8,590.8	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%
June 30, 2001	9,516.0	10,506.9	991.0	90.6%	2,444.2	40.5%
June 30, 2002	9,415.2	11,210.2	1,795.1	84.0%	2,671.7	67.2%
June 30, 2003	9,074.0	11,952.1	2,878.1	75.9%	2,826.7	101.8%
June 30, 2004	8,797.1	12,271.3	3,474.2	71.7%	2,865.1	121.3%
June 30, 2005	8,914.8	12,986.0	4,071.1	68.6%	3,041.1	133.9%
June 30, 2006 *	9,529.4	14,661.4	5,132.0	65.0%	3,238.3	158.5%
June 30, 2007 **	10,589.8	15,696.5	5,106.8	67.5%	3,507.0	145.6%
June 30, 2008	11,381.0	16,549.1	5,168.1	68.8%	3,782.1	136.6%
June 30, 2009	11,400.1	17,636.4	6,236.3	64.6%	4,030.1	154.7%
June 30, 2010	11,345.6	18,483.7	7,138.1	61.4%	3,895.7	183.2%
June 30, 2011 **	11,942.8	20,096.9	8,154.2	59.4%	3,916.0	208.2%
June 30, 2012	12,242.5	20,683.4	8,440.9	59.2%	3,890.0	217.0%

Note : Dollar amounts in millions.

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

** New assumption effective on valuation date.

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%
2010	536,237	547,613	102.1%
2011	582,535	534,858	91.8%
2012	654,755	548,353	83.7%

Note : Dollar amounts in thousands

* Effective July 1, 2005 the required contributions are based on contribution rates and not specific dollar

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:

Valuation date	June 30, 2012
Actuarial cost method	Entry Age Normal
Amortization method	Level percent, open
Remaining amortization period as of June 30, 2012*	30 years
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return**	7.75%
Projected salary increases **	
Police and Fire Employees	19.00% to 5.00%
General Employees	8.00% to 4.00%
Teachers	8.50% to 5.00%
**Includes inflation at	3.00%
Cost-of-living adjustments (COLAs)***	2.50%

*Remaining amortization period for Annual Required Contribution is 30 years.

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

Membership Data

	Police and Firefighters		All Other Employees		All Employees	
	June 30, 2012	June 30, 2011	June 30, 2012	June 30, 2011	June 30, 2012	June 30, 2011
	(1)	(2)	(3)	(4)	(5)	(6)
1. Active members						
a. Number	4,894	4,965	60,705	60,345	65,599	65,310
b. Total payroll	\$ 407,044,323	\$ 412,812,512	\$ 3,299,092,245	\$ 3,318,570,914	\$ 3,706,136,568	\$ 3,731,383,426
c. Average salary	\$ 83,172	\$ 83,145	\$ 54,346	\$ 54,993	\$ 56,497	\$ 57,133
d. Average age	41.7	41.6	48.0	47.8	47.6	47.4
e. Average service	14.0	13.8	13.5	13.4	13.5	13.4
2. Inactive members						
a. Number	238	226	6,671	6,423	6,909	6,649
b. Total annual deferred benefits	\$ 3,698,263	\$ 3,444,867	\$ 49,990,999	48,140,410	\$ 53,689,262	\$ 51,585,277
c. Average annual deferred benefit	\$ 15,539	\$ 15,243	\$ 7,494	7,495	\$ 7,771	\$ 7,758
3. Service retirees						
a. Number	3,089	2,994	33,219	32,365	36,308	35,359
b. Total annual benefits	\$ 139,356,138	\$ 129,073,292	\$ 782,957,292	744,391,967	\$ 922,313,430	\$ 873,465,259
c. Average annual benefit	\$ 45,114	\$ 43,111	\$ 23,570	23,000	\$ 25,402	\$ 24,703
4. Disabled retirees						
a. Number	156	159	1,366	1,353	1,522	1,512
b. Total annual benefits	\$ 2,798,191	\$ 2,792,285	\$ 15,079,381	14,563,692	\$ 17,877,572	\$ 17,355,977
c. Average annual benefit	\$ 17,937	\$ 17,562	\$ 11,039	10,764	\$ 11,746	\$ 11,479
5. Beneficiaries						
a. Number	210	203	2,734	2,615	2,944	2,818
b. Total annual benefits	\$ 6,079,075	\$ 5,746,569	\$ 36,973,964	\$ 34,427,112	\$ 43,053,039	\$ 40,173,681
c. Average annual benefit	\$ 28,948	\$ 28,308	\$ 13,524	13,165	\$ 14,624	\$ 14,256

Historical Summary of Active Member Data

Year Ending June 30,	Active Members		Covered Payroll		Average Salary		Average Age	Average Service
	Number	Percent Increase	Amount in \$ Millions	Percent Increase	\$ Amount	Percent Increase		
(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
2010	65,890	-3.0%	3,713.6	-3.2%	56,360	-0.3%	47.1	13.2
2011	65,310	-0.9%	3,731.4	0.5%	57,133	1.4%	47.4	13.4
2012	65,599	0.4%	3,706.1	-0.7%	56,497	-1.1%	47.6	13.5

History of Cash Flow

Year Ending June 30,	Contributions			Expenditures				External Cash Flow for the Year ²	Market Value of Assets	External Cash Flow as Percent of Market Value
	Employee	Employer	Total	Benefit Payments	Refunds	Administrative Expenses ¹	Total			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
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%)
2010	360.0	547.6	907.6	(906.4)	(7.8)	(12.2)	(926.4)	(18.8)	9,821.6	(0.2%)
2011	231.0	534.9	765.9	(960.2)	(7.9)	(13.3)	(981.4)	(215.5)	11,642.3	(1.9%)
2012	\$ 178.8	\$ 548.4	\$ 727.2	\$ (1,015.4)	\$ (7.2)	\$ (11.6)	\$ (1,034.2)	\$ (307.0)	\$ 11,285.9	(2.7%)

Amounts in \$ millions

¹ Excludes investment expenses² Column (9) = Column (4) + Column (8)

Solvency Test

	<u>June 30, 2012</u>	<u>June 30, 2011</u>
	(1)	(2)
1. Actuarial accrued liability (AAL)		
a. Active member contributions	\$ 1,485,144,874	\$ 1,364,179,427
b. Retirees and beneficiaries	10,707,191,513	10,183,713,229
c. Active and inactive members	<u>8,491,066,431</u>	<u>8,549,037,712</u>
d. Total	\$ 20,683,402,818	\$ 20,096,930,368
2. Actuarial value of assets	\$ 12,242,493,808	\$ 11,942,753,360
3. Cumulative portion of AAL covered		
a. Active member contributions	100%	100%
b. Retirees and beneficiaries	100%	100%
c. Active and inactive members	1%	5%

Highlights of Last Five Annual Actuarial Valuations
2008 through 2012

Item	Valuation Date: June 30				
	2008	2009	2010	2011	2012
Number of active members	66,589	67,912	65,890	65,310	65,599
Number of inactive members	5,847	6,016	6,895	6,649	6,909
Number of pensioners	33,893	34,429	35,763	36,871	37,830
Number of beneficiaries	2,367	2,570	2,678	2,818	2,944
Average monthly contributory plan pension amount	\$ 1,941	\$ 2,019	\$ 2,118	\$ 2,221	\$ 2,315
Average monthly noncontributory plan pension amount	\$ 1,388	\$ 1,421	\$ 1,457	\$ 1,509	\$ 1,538
Average monthly hybrid plan pension amount	\$ 1,603	\$ 1,602	\$ 1,857	\$ 2,055	\$ 2,090
Average monthly beneficiary amount	\$ 1,062	\$ 1,109	\$ 1,151	\$ 1,188	\$ 1,219
Total actuarial value of assets (\$millions)	\$ 11,381	\$ 11,400	\$ 11,346	\$ 11,943	\$ 12,242
Unfunded actuarial accrued liability (\$millions)	\$ 5,168.1	\$ 6,236.3	\$ 7,138.1	\$ 8,154.2	\$ 8,440.9
Funding Period (in years) ⁽¹⁾	22.6	28.2	41.3	25.0	30.0
Item (Dollar amounts in millions)	Fiscal Year				
	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
Employer appropriations ⁽²⁾	\$ 488.8	\$ 578.6	\$ 547.6	\$ 534.9	\$ 548.4

⁽¹⁾ Beginning with the 2011 valuation, the funding period was determined using an open group projection. Prior valuations determined the remaining amortization based on the assumption that the amortization payment would remain constant as a percentage of pay.

⁽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 increased to 19.70% for Police and Fire, 15.00% for All Others.

**Summary of Benefit Provisions
(For Members Hired Prior to 7/1/2012)**

	<u>Noncontributory Plan</u>	<u>Contributory Plan</u>	<u>Hybrid Plan</u>
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 30 years credited service	Age 55 and 5 years credited service	Age 62 and 5 years credited service; or Age 55 and 30 years credited service
Benefit	1 ¼% 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.)

	<u>Noncontributory Plan</u>	<u>Contributory Plan</u>	<u>Hybrid Plan</u>
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.

	<u>Noncontributory Plan</u>	<u>Contributory Plan</u>	<u>Hybrid Plan</u>
Ordinary Disability			
Eligibility	10 years credited service	10 years credited service	10 years credited service
Benefit	1 ¼% of AFC times years of credited service, unreduced for age (Minimum is 12.5% AFC)	1 ¾% of AFC times years of credited service, unreduced for age (Minimum is 30% AFC)	2% of AFC times years of credited service, unreduced for age, split 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. For accidents that occur on or after July 1, 2004, lifetime pension of 35% of AFC.	Totally disabled: lifetime pension of 66 2/3% AFC plus annuity. 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.	Lifetime pension of 35% of AFC plus refund of member's contributions and accrued interest.

	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	<p>Surviving spouse/reciprocal beneficiary and dependent children receive a benefit equal to a percentage of member's accrued maximum allowance unreduced for age; or</p> <p>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</p>	<p>Lump sum payment of member's contributions and accrued interest plus a percentage of the salary earned in the 12 months preceding death; or</p> <p>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</p> <p>Option 2 (100% Joint and Survivor) benefit if member was eligible for retirement at the time of death and one beneficiary designated</p>	<p>Return of member's Hybrid Plan contributions and accrued interest (both times 150%) plus return of non-Hybrid balance transfers and accrued interest; or</p> <p>Option 3 (50% Joint Survivor) lifetime benefit if credited with at least 10 years of service and one beneficiary designated; or</p> <p>Option 2 (100% Joint Survivor) lifetime monthly benefit if member was eligible for service retirement at time of death, and one beneficiary designated</p>

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

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.

**Summary of Benefit Provisions
(For Members Hired After 6/30/2012)**

	Contributory Plan (for Police/Fire)	Contributory Plan (for Judges/Elected Officers)	Hybrid Plan
Employee Contributions	14.2% of base pay earnings	9.8% of base pay earnings	8.0% of base pay earnings 11.75% of base pay earnings for Sewer workers, water safety officers, and emergency medical technicians (EMTs)
Normal Retirement Eligibility	Age 60 and 10 years credited service	Age 60 and 10 years credited service	Age 65 and 10 years credited service; or Age 60 and 30 years credited service Sewer workers, water safety officers, and EMTs may retire with 25 years credited service at age 55.
Benefit	2.25% of average final compensation times years of credited service. (Average final compensation or AFC is an average of the highest base pay earnings during any five years of credited service, excluding any salary paid in lieu of vacation.) Maximum is 80% of AFC.	3.0% of average final compensation times years of credited service (Average final compensation or AFC is an average of the highest base pay earnings during any five years of credited service, excluding any salary paid in lieu of vacation.) Maximum is 75% of AFC.	1.75% of average final compensation times years of credited service (Average final compensation or AFC is an average of the highest base pay earnings during any five years of credited service, excluding any salary paid in lieu of vacation.)

	Contributory Plan (for Police Fire)	Contributory Plan (for Judges/Elected Officers)	Hybrid Plan
Early Retirement			
Eligibility	Age 55 and 25 years credited service	Age 55 and 25 years credited service Any age with 10 years for elected officers	Age 55 with 20 years credited service Sewer workers, water safety officers, and emergency medical technicians (EMTs) may retire with 25 years credited service.
Benefit	Maximum allowance reduced 6% per year under age 60	Maximum allowance reduced 6% per year under age 60	Maximum allowance reduced 5% for each year under age 65
Deferred Vesting			
Eligibility	10 years credited service and contributions left in the ERS		
Benefit	Accrued maximum allowance payable at age 60		Accrued maximum allowance payable at age 65
Annuity Savings Account			
Interest	2.0% per annum on employee contributions and accrued interest		
Eligibility	Requests refund and forfeits future retirement benefit		
Benefit			
- Terminates with less than 10 years credited service	Return of member's contributions and accrued interest		Return of member's contributions and accrued interest
- Terminates with 10 or more years of credited service	Return of member's contributions and accrued interest		Return of member's contributions and accrued interest, both times 120%.

	Contributory Plan (for Police Fire)	Contributory Plan (for Judges/Elected Officers)	Hybrid Plan
Ordinary Disability			
Eligibility	10 years credited service	10 years credited service	10 years credited service
Benefit	1 $\frac{3}{4}$ % of AFC times years of credited service, unreduced for age (Minimum is 30% AFC)	3.0% of AFC times years of credited service, unreduced for age (Minimum is 30% AFC)	1 $\frac{3}{4}$ % of AFC times years of credited service, unreduced for age (Minimum is 25% AFC)
Service-Connected Disability			
Eligibility	Any age or credited service	Any age or credited service	Any age or credited service
Benefit	Lifetime pension of 50% of AFC plus refund of member's contributions and accrued interest.		Lifetime pension of 35% of AFC plus refund of member's contributions and accrued interest.

	Contributory Plan (for Police Fire)	Contributory Plan (for Judges/Elected Officers)	Hybrid Plan
Ordinary Death			
Eligibility	Active employee at time of death with at least 1 years of credited service		Active employee at time of death with at least 5 years of service
Benefit	<p>Lump sum payment of member's contributions and accrued interest plus a percentage of the salary earned in the 12 months preceding death; or</p> <p>Option 3 (50% Joint Survivor) lifetime benefit if credited with at least 10 years of service and one beneficiary designated; or</p> <p>Option 2 (100% Joint Survivor) lifetime monthly benefit if member was eligible for service retirement at time of death, and one beneficiary designated</p>		<p>Return of member's Hybrid Plan contributions and interest; or</p> <p>Option 3 (50% Joint Survivor) lifetime benefit if credited with at least 10 years of service and one beneficiary designated; or</p> <p>Option 2 (100% Joint Survivor) lifetime monthly benefit if member was eligible for service retirement at time of death, and one beneficiary designated</p>

	Contributory Plan (for Police Fire)	Contributory Plan (for Judges/Elected Officers)	Hybrid Plan
Service-Connected Death			
Eligibility	Any age or service	Any age or service	Any age or service
Benefit	<p>Lump sum payment of member's contributions and interest, plus pension of 50% AFC to surviving spouse/reciprocal beneficiary (until remarriage or re-entry into a new reciprocal beneficiary relationship);</p> <p>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.</p> <p>If there is no spouse/reciprocal beneficiary or dependent children/parents, the ordinary death benefit shall be payable to the designated beneficiary.</p>		

Post Retirement Benefit

Each retiree's original retirement allowance is increased by 1 ½% (if your membership date is after June 30, 2012) or 2 ½% (if your membership date is before July 1, 2012) on each July 1 beginning the calendar year after retirement. This cumulative benefit is not compounded.

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 retiree 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 reduced 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 reduced 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 reduced 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%.

Act 163, effective June 23, 2011

Legislation was enacted that increased the future employer contribution rates to ERS. Employers of Police and Fire employees will contribute 22% of pay in FY 2013, 23% in FY 2014, 24% in FY 2015, and 25% in FY 2016 and beyond. Employers of All Other Employees will contribute 15.5% of pay in FY 2013, 16.0% in FY 2014, 16.5% in FY 2015, and 17.0% in FY 2016 and beyond

Legislation was enacted that made numerous changes to the benefits and member contribution rates for employees hired after June 30, 2012. Key changes are shown below:

Benefit Provision	Police & Fire Employees	All Other Employees
Benefit Multiplier	2.25%	1.75%
Normal Retirement	Age 55 with 25 years of service, or age 60 with 10 years of service	Age 60 with 30 years of service, or age 65 with 10 years of service
Post-Retirement Increase	1.5%	1.5%
Hybrid Match	N/A	120%
Average Final Compensation	Highest 5 annual base salaries	Highest 5 annual base salaries
Eligibility for Deferred Benefit	10 years of service	10 years of service
Member Contribution Rate	14.20%	8.00%

Similar changes were also made to the benefits of Judges, Legislative Officers, etc.

Similar changes were also made to those employees in the All Other Employees group who are eligible to retire at 25 years of service including the addition of a minimum age requirement (55).

Finally, legislation was enacted that set the investment return assumption for the June 30, 2011 valuation at 7.75% (the rate recommended in the Experience Study presented to the Board in December of 2010). In addition, the legislation granted ERS's Board the authority to set this assumption for valuations after 2011.

Act 152, effective June 26, 2012

Legislation was enacted to require employers to pay additional contributions if a retiring employee, who was first employed prior to July 1, 2012 and who was last employed by the employer, has significant non-base pay increases included in their average final compensation. The additional contribution is equal to the actuarial present value of the additional benefits earned due to the "excessive" non-base pay increases.

Act 153, effective June 26, 2012

Legislation was enacted to eliminate most types of non-base pay from the definition of compensation for employees hired after June 30, 2012. For the impacted employees, non-base pay compensation will be excluded in determining both the contributions made by and on behalf of these employees and the benefits they will earn in the System.

**Summary of Actuarial Methods and Assumptions
(Adopted on June 30, 2007, and December 20, 2010)**

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 normal cost and actuarial accrued liability are determined using the Entry Age Actuarial Cost Method. The 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 and accrued liability are determined on an individual basis.

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.

III. Funding of Unfunded Actuarial Accrued Liability

Since the State statutes governing the System establish the employee and employer contribution rates, the actuarial valuation determines the number of years required to amortize (or fund) the UAAL. Because of the legislated increases in future employer contribution rates and the new tier of benefits for employees hired after June 30, 2012, an open group projection of liabilities and assets was used to determine the length of time until the UAAL is eliminated. The open group projection assumed that the number of active members would remain static (i.e. each active employee who leaves employment due to termination, retirement, death or disability, would be replaced by exactly one new employee.

Because of this methodology for determining the funding period, 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.

IV. Actuarial Value of Assets

The actuarial value of assets is equal to the expected actuarial value of assets plus 25% of the difference between the actual market value of assets and the expected actuarial value of assets. The expected actuarial value of assets 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 actuarial value of assets, adjusted for contributions, benefits paid, and refunds.

V. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 7.75% per year, compounded annually, composed of an assumed 3.00% inflation rate and a 4.75% net real rate of return (effective June 30, 2011).
2. Payroll growth rate: 3.50% per annum (effective June 30, 2006).
3. Salary increase rate (effective June 30, 2011): As shown below

Years of Service	General Employees		Teachers	
	Service-related Component	Total Annual Rate of Increase Including 3.00% Inflation Component and 1.00% General Increase Rate	Service-related Component	Total Annual Rate of Increase Including 3.00% Inflation Component and 1.50% General Increase Rate
(1)	(2)	(3)	(2)	(3)
1	4.00%	8.00%	4.00%	8.50%
2	3.00%	7.00%	3.25%	7.75%
3	2.00%	6.00%	2.50%	7.00%
4	1.25%	5.25%	2.00%	6.50%
5	1.00%	5.00%	1.50%	6.00%
6	0.75%	4.75%	1.00%	5.50%
7	0.50%	4.50%	1.00%	5.50%
8	0.50%	4.50%	0.75%	5.25%
9	0.50%	4.50%	0.75%	5.25%
10	0.25%	4.25%	0.75%	5.25%
11	0.25%	4.25%	0.50%	5.00%
12	0.25%	4.25%	0.50%	5.00%
13	0.25%	4.25%	0.50%	5.00%
14	0.25%	4.25%	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 2.00% General Increase Rate
(1)	(2)	(3)
0	14.00%	19.00%
1	12.00%	17.00%
2 or more	0.00%	5.00%

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. Demographic Assumptions

1. Post-Retirement Mortality rates

General Employees (effective June 30, 2011)

- a. Healthy males – Client Specific Table for males, 89% multiplier.
- b. Healthy females - Client Specific Table for females, 89% multiplier.
- c. Disabled males - 1994 US Group Annuity Mortality Static Table for males set forward nine years.
- d. Disabled females - 1994 US Group Annuity Mortality Static Table for females set forward nine years.

Teachers

- a. Healthy males – Client Specific Table for male teachers, 65% multiplier **(effective June 30, 2011)**.
- b. Healthy females - Client Specific Table for female teachers, 67% multiplier **(effective June 30, 2011)**.
- c. Disabled males - 1994 US Group Annuity Mortality Static Table for males set forward five years **(effective June 30, 2011)**.
- d. Disabled females - 1994 US Group Annuity Mortality Static Table for females set forward six years **(effective June 30, 2006)**.

Police and Fire

- a. Healthy males – 1994 US Group Annuity Mortality Static Table for males, 85% multiplier (**effective June 30, 2006**).
- b. Healthy females - 1994 US Group Annuity Mortality Static Table for females, 85% multiplier (**effective June 30, 2006**).
- c. Disabled males - 1994 US Group Annuity Mortality Static Table for males set forward three years (**effective June 30, 2011**).
- d. Disabled females - 1994 US Group Annuity Mortality Static Table for females set forward three years (**effective June 30, 2011**).

Mortality Improvement: To account for future mortality improvement, the healthy mortality rates were chosen so that the assumed mortality rates are smaller than the rates observed in the most recent experience study (dated 12-20-2010). The margin at the time of the study was at least 7% for all groups (i.e. 7% more actual male deaths than expected). No future mortality improvement after the measurement date is assumed except as described above.

2. Pre-retirement Mortality Rates (**effective June 30, 2011**)

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.

Type	General Employees		Teachers		Police and Fire	
	Males	Females	Males	Females	Males	Females
Ordinary	64%	48%	50%	40%	15%	15%
Accidental	16%	12%	10%	5%	35%	35%

3. Disability rates (**effective June 30, 2011**) – 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:

Type	General Employees		Teachers		Police and Fire
	Male	Female	Male	Female	Male & Female
Ordinary	135%	85%	50%	40%	70%
Duty	30%	7%	5%	5%	35%

4. Termination Rates (**effective June 30, 2011**) - Separate male and female rates, based on both age and service, developed from 2010 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

Group	Expected Terminations per 100 Lives (Male Members)					
	Years of Service					
	0	1	2	3	4	5
General Employees	15.5	12.5	10.5	9.0	7.0	6.0
Teachers	33.0	23.0	15.0	13.0	11.0	9.0
Police & Fire	12.0	9.0	4.0	4.0	4.0	4.0

Group	Expected Terminations per 100 Lives (Female Members)					
	Years of Service					
	0	1	2	3	4	5
General Employees	18.5	16.5	12.5	10.0	8.0	7.0
Teachers	28.0	23.0	16.0	14.0	12.0	8.0
Police & Fire	12.0	9.0	4.0	4.0	4.0	4.0

After first 6 years of service

Age	Expected Terminations per 100 Lives				
	Years of Service				
	General Employees Males	General Employees Females	Teachers Males	Teachers Females	Police & Fire
(1)	(2)	(3)	(4)	(5)	(6)
20	7.15	8.12	6.22	7.12	2.03
25	6.50	7.83	4.98	6.72	1.91
30	5.46	5.84	4.12	6.15	2.53
35	4.40	4.04	3.95	4.99	2.75
40	3.60	3.30	3.60	3.70	2.01
45	3.02	2.65	2.88	2.88	1.18
50	2.54	2.41	2.34	2.36	0.79
55	2.52	2.41	2.34	2.36	0.24
60	2.52	2.41	2.34	2.36	0.00

5. Retirement rates (**effective June 30, 2011**) - Separate male and female rates, based on age, developed from the 2010 Experience Study. Sample rates are shown below:

Contributory Plan and Hybrid Plan

Age	Expected Retirements per 100 Lives				
	General Employees		Teachers		Police and Fire
	Male	Female	Male	Female	Male & Female
45	2	1	0	0	13
46	2	1	0	0	13
47	2	1	0	0	13
48	2	1	0	0	13
49	2	1	0	0	13
50	2	1	1	0	15
51	2	1	1	1	15
52	2	1	1	1	15
53	2	2	2	2	15
54	3	3	3	3	15
55	16	13	20	18	20
56	14	13	15	16	20
57	14	13	15	16	20
58	14	13	15	16	20
59	14	13	15	16	20
60	14	15	14	18	30
61	15	15	14	18	30
62	25	25	14	25	30
63	20	20	14	20	30
64	20	20	14	15	30
65	25	25	20	25	100
66	25	25	15	25	100
67	20	20	15	20	100
68	20	20	15	20	100
69	20	20	15	20	100
70	20	20	15	20	100
71	20	20	15	20	100
72	20	20	15	20	100
73	20	20	15	20	100
74	20	20	15	20	100
75	100	100	100	100	100

Retirement rates for 25 & out group ages 50-54 are 10% for both males and females

Noncontributory Plan

Expected Retirements per 100 Lives

Age	General Employees				Teachers			
	Unreduced Retirement		Reduced Retirement		Unreduced Retirement		Reduced Retirement	
	Male	Female	Male	Female			Male	Female
55	13	12	2	2	10	13	2	3
56	13	12	2	2	10	13	2	3
57	13	12	2	2	10	14	2	3
58	13	12	2	2	10	15	2	3
59	13	12	3	3	10	16	3	3
60	14	15	4	4	10	17	5	5
61	14	18	5	5	10	18	10	5
62	25	25			16	25		
63	25	25			12	20		
64	20	20			10	18		
65	25	22			20	30		
66	25	22			15	25		
67	25	22			15	25		
68	25	22			15	25		
69	25	22			15	25		
70	20	20			15	25		
71	20	20			15	25		
72	20	20			15	25		
73	20	20			15	25		
74	20	20			15	25		
75	100	100			100	100		

Retirement rates for the 25 & out group ages 50-54 are 10% for both males and females

For Hybrid plan, early retirement rates are reduced by a factor of 10% for each year prior to age 65 (if hired after June 30, 2012) or 62 (if hired before July 1, 2012) for a maximum of 10 years.

C. Other Assumptions

1. Percent married (**effective June 30, 2006**): 77% of male employees and 57.6% of female employees are assumed to be married.
2. Age difference (**effective June 30, 2006**): 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 (**effective June 30, 2011**): The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses. For purposes of determining the investment return assumption administrative expenses are assumed to be equal to 40 basis points of each year's investment return.
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. Teachers are assumed to receive the first COLA 12 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 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 December 20, 2010 as recommended by Gabriel, Roeder, Smith & Company (GRS). The legislature set the investment return assumption for the 2011 valuation to the assumption recommended by GRS. The ERS Board has adopted the assumption beginning with the 2012 valuation.

SECTION M

STATISTICAL TABLES

STATISTICAL TABLES

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36	91	CONTRIBUTORY PENSIONS IN FORCE BY YEARS OF SERVICE
37	92	CONTRIBUTORY PENSIONS IN FORCE BY YEARS SINCE RETIREMENT
38,41	93/96	PENSIONS IN FORCE BY PAYMENT OPTION – GENERAL EMPLOYEES/NEW
39,42	94/97	PENSIONS IN FORCE BY PAYMENT OPTION – TEACHERS/NEW
40,43	95/98	PENSIONS IN FORCE BY PAYMENT OPTION – POLICE AND FIRE/NEW

**Distribution of Active Members by Age and by Years of Service - All Employees
As of 06/30/2012**

Attained Age	Years of Credited Service												Total Count & Avg. Comp.	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.		
Under 25	306 \$38,934	169 \$41,676	32 \$44,481	30 \$36,967	15 \$37,483	2 \$27,501	0 \$0	554 \$39,904						
25-29	768 \$41,401	669 \$44,441	519 \$46,524	519 \$46,220	501 \$45,650	509 \$48,308	0 \$0	3,485 \$45,085						
30-34	589 \$45,103	552 \$46,528	398 \$49,491	590 \$47,801	695 \$46,741	2,697 \$51,991	375 \$50,415	1 \$60,006	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	5,897 \$49,486
35-39	592 \$46,503	490 \$47,809	339 \$50,278	514 \$50,303	629 \$48,019	2,504 \$53,345	2,117 \$57,789	252 \$60,956	3 \$57,087	0 \$0	0 \$0	0 \$0	0 \$0	7,440 \$53,159
40-44	319 \$47,213	309 \$46,182	235 \$48,689	372 \$51,450	455 \$48,846	2,096 \$52,982	2,204 \$57,598	2,033 \$65,348	562 \$63,962	2 \$59,556	0 \$0	0 \$0	0 \$0	8,587 \$56,952
45-49	245 \$46,785	269 \$48,657	173 \$48,698	362 \$46,464	448 \$46,594	1,710 \$50,456	1,625 \$53,763	1,552 \$62,399	2,508 \$67,570	420 \$71,713	4 \$85,508	0 \$0	0 \$0	9,316 \$58,081
50-54	220 \$48,316	203 \$50,699	183 \$51,207	309 \$44,778	369 \$46,623	1,548 \$49,925	1,511 \$49,423	1,327 \$59,808	2,237 \$64,562	1,685 \$70,348	411 \$66,056	5 \$71,650	5 \$58,266	10,008 \$58,266
55-59	183 \$49,603	182 \$55,861	164 \$50,081	278 \$50,998	313 \$47,427	1,330 \$50,187	1,329 \$49,646	1,232 \$57,847	1,858 \$60,543	1,463 \$69,950	1,204 \$72,020	298 \$67,197	298 \$59,186	9,834 \$59,186
60-64	96 \$49,957	121 \$52,444	111 \$51,619	147 \$49,789	230 \$50,607	974 \$51,977	964 \$50,876	860 \$56,704	1,359 \$61,996	868 \$67,956	596 \$74,360	755 \$76,225	755 \$60,637	7,081 \$60,637
65 & Over	39 \$66,774	51 \$51,835	47 \$55,882	63 \$56,074	78 \$48,855	529 \$49,606	564 \$50,480	389 \$58,193	489 \$63,070	337 \$66,797	227 \$77,631	584 \$87,962	584 \$63,265	3,397 \$63,265
Total	3,357 \$45,110	3,015 \$47,327	2,201 \$49,122	3,184 \$48,360	3,733 \$47,340	13,899 \$51,563	10,689 \$53,675	7,646 \$61,097	9,016 \$64,063	4,775 \$69,656	2,442 \$72,131	1,642 \$78,747	1,642 \$78,747	65,599 \$56,497

**Distribution of Active Members by Age and by Years of Service
Noncontributory Members, All
As of 06/30/2012**

Attained Age	Years of Credited Service												Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	1 \$33,228	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$33,228
25-29	0 \$0	1 \$34,800	0 \$0	1 \$37,416	0 \$0	92 \$40,749	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	94 \$40,650
30-34	2 \$38,950	0 \$0	0 \$0	0 \$0	0 \$0	805 \$48,981	162 \$43,681	1 \$60,006	0 \$0	0 \$0	0 \$0	0 \$0	970 \$48,087
35-39	1 \$41,316	1 \$78,293	1 \$46,200	1 \$30,000	1 \$30,000	828 \$50,931	783 \$51,574	92 \$51,249	1 \$77,005	0 \$0	0 \$0	0 \$0	1,709 \$51,241
40-44	2 \$36,023	0 \$0	0 \$0	0 \$0	1 \$40,037	664 \$49,258	898 \$51,499	689 \$58,798	196 \$53,503	1 \$61,392	0 \$0	0 \$0	2,451 \$53,091
45-49	0 \$0	0 \$0	0 \$0	0 \$0	1 \$77,069	594 \$48,489	766 \$49,830	647 \$57,210	849 \$59,563	132 \$56,377	1 \$51,674	0 \$0	2,990 \$54,223
50-54	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	487 \$47,503	768 \$45,554	605 \$54,916	911 \$58,485	480 \$62,815	105 \$63,584	2 \$61,837	3,358 \$54,072
55-59	0 \$0	2 \$29,097	0 \$0	0 \$0	0 \$0	395 \$45,815	590 \$45,812	604 \$54,606	787 \$55,763	508 \$64,075	290 \$66,894	107 \$63,204	3,283 \$55,060
60-64	1 \$30,000	0 \$0	0 \$0	1 \$97,103	1 \$66,782	294 \$47,181	461 \$47,232	425 \$55,459	636 \$58,615	319 \$63,835	182 \$71,705	255 \$74,067	2,575 \$57,860
65 & Over	0 \$0	0 \$0	0 \$0	0 \$0	1 \$28,693	178 \$45,044	282 \$41,915	247 \$52,893	303 \$60,075	190 \$60,373	90 \$76,164	248 \$85,513	1,539 \$58,913
Total	7 \$36,355	4 \$42,822	1 \$46,200	3 \$54,840	5 \$48,516	4,337 \$48,416	4,710 \$48,298	3,310 \$55,934	3,683 \$58,045	1,630 \$62,600	668 \$68,911	612 \$76,766	18,970 \$54,418

**Distribution of Active Members by Age and by Years of Service
Noncontributory Members, General Employees
As of 06/30/2012**

Attained Age	Years of Credited Service												Total	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.		
Under 25	1 \$33,228	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$33,228
25-29	0 \$0	1 \$34,800	0 \$0	1 \$37,416	0 \$0	77 \$39,150	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	79 \$39,073
30-34	1 \$35,390	0 \$0	0 \$0	0 \$0	0 \$0	435 \$46,323	128 \$40,765	1 \$60,006	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	565 \$45,068
35-39	1 \$41,316	1 \$78,293	1 \$46,200	1 \$30,000	0 \$0	532 \$49,448	441 \$48,355	62 \$48,489	1 \$77,005	0 \$0	0 \$0	0 \$0	0 \$0	1,040 \$48,952
40-44	2 \$36,023	0 \$0	0 \$0	0 \$0	1 \$40,037	513 \$46,830	633 \$48,458	363 \$55,543	172 \$52,757	1 \$61,392	0 \$0	0 \$0	0 \$0	1,685 \$49,916
45-49	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	462 \$45,439	616 \$46,811	475 \$54,167	572 \$56,905	114 \$55,110	1 \$51,674	0 \$0	0 \$0	2,240 \$51,090
50-54	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	378 \$45,019	651 \$42,277	478 \$51,401	724 \$55,393	352 \$60,640	97 \$62,789	2 \$61,837	2 \$61,837	2,682 \$50,997
55-59	0 \$0	2 \$29,097	0 \$0	0 \$0	0 \$0	325 \$44,208	486 \$42,006	477 \$50,628	644 \$52,079	410 \$61,104	231 \$63,898	93 \$60,205	93 \$60,205	2,668 \$51,702
60-64	1 \$30,000	0 \$0	0 \$0	0 \$0	0 \$0	233 \$43,645	379 \$44,128	319 \$50,788	467 \$52,110	226 \$57,124	130 \$66,105	187 \$69,129	187 \$69,129	1,942 \$52,467
65 & Over	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	143 \$41,919	246 \$39,030	206 \$49,360	245 \$56,104	136 \$52,570	61 \$67,638	126 \$74,842	126 \$74,842	1,163 \$51,775
Total	6 \$35,330	4 \$42,822	1 \$46,200	2 \$33,708	1 \$40,037	3,098 \$45,848	3,580 \$44,781	2,381 \$52,098	2,825 \$54,310	1,239 \$58,758	520 \$64,658	408 \$68,823	408 \$68,823	14,065 \$50,826

**Distribution of Active Members by Age and by Years of Service
Noncontributory Members, Teachers
As of 06/30/2012**

Attained Age	Years of Credited Service												Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & 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 \$0	0 \$0	0 \$0	0 \$0	15 \$48,957	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	15 \$48,957
30-34	1 \$42,509	0 \$0	0 \$0	0 \$0	0 \$0	370 \$52,106	34 \$54,658	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	405 \$52,297
35-39	0 \$0	0 \$0	0 \$0	0 \$0	1 \$30,000	296 \$53,595	342 \$55,725	30 \$56,952	0 \$0	0 \$0	0 \$0	0 \$0	669 \$54,799
40-44	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	151 \$57,505	265 \$58,763	326 \$62,422	24 \$58,853	0 \$0	0 \$0	0 \$0	766 \$60,075
45-49	0 \$0	0 \$0	0 \$0	0 \$0	1 \$77,069	132 \$59,166	150 \$62,230	172 \$65,615	277 \$65,053	18 \$64,402	0 \$0	0 \$0	750 \$63,582
50-54	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	109 \$56,117	117 \$63,786	127 \$68,146	187 \$70,456	128 \$68,795	8 \$73,214	0 \$0	676 \$66,274
55-59	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	70 \$53,276	104 \$63,596	127 \$69,546	143 \$72,353	98 \$76,501	59 \$78,626	14 \$83,126	615 \$69,629
60-64	0 \$0	0 \$0	0 \$0	1 \$97,103	1 \$66,782	61 \$60,686	82 \$61,579	106 \$69,517	169 \$76,592	93 \$80,144	52 \$85,707	68 \$87,648	633 \$74,405
65 & Over	0 \$0	0 \$0	0 \$0	0 \$0	1 \$28,693	35 \$57,815	36 \$61,629	41 \$70,647	58 \$76,846	54 \$80,027	29 \$94,097	122 \$96,533	376 \$80,989
Total	1 \$42,509	0 \$0	0 \$0	1 \$97,103	4 \$50,636	1,239 \$54,836	1,130 \$59,441	929 \$65,765	858 \$70,344	391 \$74,775	148 \$83,853	204 \$92,651	4,905 \$64,720

**Distribution of Active Members by Age and by Years of Service
Contributory Members, All
As of 06/30/2012**

Attained Age	Years of Credited Service												Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	6 \$55,348	20 \$57,530	10 \$61,419	1 \$64,227	1 \$68,776	0 \$0	38 \$58,681						
25-29	29 \$54,399	78 \$55,553	59 \$66,265	60 \$67,443	56 \$70,039	76 \$71,974	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	358 \$64,970
30-34	24 \$55,887	49 \$55,210	51 \$66,285	60 \$68,083	69 \$68,243	370 \$70,647	58 \$75,347	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	681 \$68,620
35-39	13 \$58,628	38 \$54,450	28 \$65,463	37 \$64,670	40 \$67,113	294 \$71,964	394 \$77,514	47 \$88,050	0 \$0	0 \$0	0 \$0	0 \$0	891 \$73,600
40-44	3 \$55,336	7 \$55,968	14 \$66,700	21 \$66,868	15 \$69,652	198 \$71,337	403 \$77,057	376 \$89,205	135 \$95,660	0 \$0	0 \$0	0 \$0	1,172 \$81,548
45-49	2 \$55,049	7 \$73,170	3 \$71,063	3 \$77,214	8 \$70,239	60 \$73,404	136 \$75,940	214 \$88,383	408 \$100,060	128 \$102,865	3 \$96,786	0 \$0	972 \$92,136
50-54	2 \$53,340	3 \$56,104	1 \$63,346	3 \$56,308	4 \$92,554	21 \$73,802	32 \$78,200	111 \$85,154	236 \$98,620	333 \$89,829	153 \$72,689	2 \$74,196	901 \$87,502
55-59	0 \$0	3 \$105,090	1 \$136,127	4 \$70,307	2 \$97,870	14 \$99,196	22 \$92,812	42 \$90,156	72 \$101,433	227 \$85,888	321 \$75,358	69 \$70,023	777 \$82,325
60-64	0 \$0	0 \$0	1 \$66,500	0 \$0	0 \$0	7 \$62,599	11 \$86,676	11 \$83,708	26 \$107,696	84 \$77,254	151 \$73,417	165 \$76,592	456 \$77,614
65 & Over	1 \$55,440	2 \$42,750	0 \$0	1 \$46,272	0 \$0	7 \$86,087	8 \$99,517	8 \$86,007	5 \$129,441	25 \$71,371	63 \$65,469	133 \$79,378	253 \$76,629
Total	80 \$55,641	207 \$56,673	168 \$66,371	190 \$66,952	195 \$69,522	1,047 \$71,897	1,064 \$77,619	809 \$88,308	882 \$99,505	797 \$88,896	691 \$73,534	369 \$76,355	6,499 \$80,091

**Distribution of Active Members by Age and by Years of Service
Contributory Members, General Employees
As of 06/30/2012**

Attained Age	Years of Credited Service												Total Count & Avg. Comp.
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & 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	1 \$47,928	0 \$0	0 \$0	0 \$0	1 \$47,928							
30-34	0 \$0	2 \$52,446	0 \$0	0 \$0	1 \$35,078	5 \$51,531	2 \$52,172	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	10 \$50,197
35-39	1 \$46,272	7 \$46,273	0 \$0	2 \$46,273	0 \$0	8 \$49,798	8 \$52,266	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	26 \$49,201
40-44	0 \$0	0 \$0	0 \$0	2 \$91,200	0 \$0	13 \$59,786	14 \$58,970	10 \$77,368	0 \$0	0 \$0	0 \$0	0 \$0	39 \$65,612
45-49	0 \$0	2 \$97,398	0 \$0	0 \$0	1 \$56,410	6 \$63,634	10 \$50,877	13 \$86,021	13 \$75,214	16 \$62,835	2 \$113,910	0 \$0	63 \$70,969
50-54	0 \$0	2 \$56,781	0 \$0	2 \$51,527	1 \$139,924	5 \$66,604	4 \$76,145	14 \$65,487	21 \$92,735	96 \$63,337	100 \$53,064	1 \$35,544	246 \$62,117
55-59	0 \$0	2 \$128,296	1 \$136,127	3 \$75,603	1 \$128,296	9 \$109,691	9 \$112,966	8 \$103,069	10 \$111,068	120 \$70,678	188 \$63,642	51 \$57,637	402 \$69,832
60-64	0 \$0	0 \$0	1 \$66,500	0 \$0	0 \$0	7 \$62,599	6 \$85,991	10 \$81,645	10 \$129,575	50 \$62,798	97 \$66,953	94 \$67,477	275 \$69,491
65 & Over	1 \$55,440	2 \$42,750	0 \$0	1 \$46,272	0 \$0	7 \$86,087	8 \$99,517	7 \$89,376	3 \$96,622	14 \$61,071	50 \$60,101	78 \$70,273	171 \$69,256
Total	2 \$50,856	18 \$62,621	2 \$101,314	10 \$65,108	4 \$89,927	60 \$69,602	61 \$73,609	62 \$81,861	57 \$98,623	296 \$66,088	437 \$61,781	224 \$66,068	1,233 \$67,449

**Distribution of Active Members by Age and by Years of Service
Contributory Members, Teachers
As of 06/30/2012**

Attained Age	Years of Credited Service												Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & 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	1 \$46,609	0 \$0	1 \$46,609										
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 \$0
35-39	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$59,772	0 \$0	0 \$0	0 \$0	0 \$0	1 \$59,772
40-44	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$78,340	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$78,340
45-49	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$68,178	1 \$54,180	0 \$0	0 \$0	0 \$0	2 \$61,179
50-54	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	2 \$52,986	3 \$112,368	39 \$69,746	14 \$77,680	0 \$0	58 \$73,288
55-59	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	2 \$149,532	1 \$89,640	23 \$76,333	81 \$78,502	13 \$98,273	120 \$81,504
60-64	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	14 \$75,016	42 \$77,885	62 \$84,271	118 \$80,900
65 & Over	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$249,996	7 \$80,243	13 \$86,118	50 \$89,765	71 \$90,415
Total	1 \$46,609	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$78,340	6 \$88,831	6 \$121,820	83 \$73,346	150 \$78,912	125 \$87,925	372 \$81,462

**Distribution of Active Members by Age and by Years of Service
Contributory Members, Police and Firefighters
As of 06/30/2012**

Attained Age	Years of Credited Service												Total Count & Avg. Comp.	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over		
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.		
Under 25	6 \$55,348	20 \$57,530	10 \$61,419	1 \$64,227	1 \$68,776	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	38 \$58,681
25-29	28 \$54,677	77 \$55,652	59 \$66,265	60 \$67,443	56 \$70,039	76 \$71,974	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	356 \$65,069
30-34	24 \$55,887	47 \$55,328	51 \$66,285	60 \$68,083	68 \$68,731	365 \$70,909	56 \$76,175	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	671 \$68,895
35-39	12 \$59,658	31 \$56,297	28 \$65,463	35 \$65,721	40 \$67,113	286 \$72,584	386 \$78,037	46 \$88,665	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	864 \$74,350
40-44	3 \$55,336	7 \$55,968	14 \$66,700	19 \$64,307	15 \$69,652	185 \$72,149	388 \$77,706	366 \$89,528	135 \$95,660	0 \$0	0 \$0	0 \$0	0 \$0	1,132 \$82,100
45-49	2 \$55,049	5 \$63,479	3 \$71,063	3 \$77,214	7 \$72,215	54 \$74,490	126 \$77,929	200 \$88,638	394 \$100,996	112 \$108,583	1 \$62,539	0 \$0	0 \$0	907 \$93,675
50-54	2 \$53,340	1 \$54,749	1 \$63,346	1 \$65,869	3 \$76,764	16 \$76,052	28 \$78,493	95 \$88,730	212 \$99,008	198 \$106,630	39 \$121,220	1 \$112,848	1 \$112,848	597 \$99,343
55-59	0 \$0	1 \$58,678	0 \$0	1 \$54,419	1 \$67,443	5 \$80,305	13 \$78,859	32 \$83,217	61 \$100,047	84 \$110,234	52 \$112,817	5 \$122,909	5 \$122,909	255 \$102,407
60-64	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	5 \$87,498	1 \$104,342	16 \$94,022	20 \$114,959	12 \$110,037	9 \$118,890	9 \$118,890	63 \$106,918
65 & Over	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1 \$62,424	1 \$107,346	4 \$91,895	0 \$0	5 \$117,533	5 \$117,533	11 \$102,274
Total	77 \$55,883	189 \$56,106	166 \$65,950	180 \$67,054	191 \$69,095	987 \$72,036	1,002 \$77,862	741 \$88,843	819 \$99,403	418 \$108,135	104 \$115,164	20 \$119,253	20 \$119,253	4,894 \$83,172

**Distribution of Active Members by Age and by Years of Service
Hybrid Plan Members, All
As of 06/30/2012**

Attained Age	Years of Credited Service												Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	299 \$38,624	149 \$39,548	22 \$36,781	29 \$36,027	14 \$35,248	2 \$27,501	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	515 \$38,531
25-29	739 \$40,891	590 \$42,988	460 \$43,992	458 \$43,459	445 \$42,581	341 \$45,072	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	3,033 \$42,875
30-34	563 \$44,665	503 \$45,682	347 \$47,022	530 \$45,505	626 \$44,371	1,522 \$49,047	155 \$48,123	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	4,246 \$46,737
35-39	578 \$46,239	451 \$47,182	310 \$48,919	476 \$49,229	588 \$46,751	1,382 \$50,831	940 \$54,698	113 \$57,590	2 \$47,128	0 \$0	0 \$0	0 \$0	4,840 \$50,074
40-44	314 \$47,207	302 \$45,955	221 \$47,548	351 \$50,528	439 \$48,156	1,234 \$52,041	903 \$54,978	968 \$60,743	231 \$54,311	1 \$57,720	0 \$0	0 \$0	4,964 \$53,052
45-49	243 \$46,717	262 \$48,002	170 \$48,303	359 \$46,207	439 \$46,094	1,056 \$50,259	723 \$53,758	691 \$59,210	1,251 \$62,408	160 \$59,443	0 \$0	0 \$0	5,354 \$54,053
50-54	218 \$48,270	200 \$50,618	182 \$51,140	306 \$44,665	365 \$46,120	1,040 \$50,577	711 \$52,306	611 \$60,046	1,090 \$62,267	872 \$67,054	153 \$61,119	1 \$86,184	5,749 \$56,134
55-59	183 \$49,603	177 \$55,329	163 \$49,553	274 \$50,716	311 \$47,103	921 \$51,317	717 \$51,476	586 \$58,872	999 \$61,361	728 \$69,081	593 \$72,720	122 \$69,101	5,774 \$58,418
60-64	95 \$50,167	121 \$52,444	110 \$51,484	146 \$49,465	229 \$50,536	673 \$53,962	492 \$53,490	424 \$57,251	697 \$63,377	465 \$69,104	263 \$76,737	335 \$77,686	4,050 \$60,492
65 & Over	38 \$67,072	49 \$52,206	47 \$55,882	62 \$56,232	77 \$49,116	344 \$51,224	274 \$57,864	134 \$66,301	181 \$66,250	122 \$75,865	74 \$89,768	203 \$96,578	1,605 \$65,331
Total	3,270 \$44,871	2,804 \$46,644	2,032 \$47,697	2,991 \$47,173	3,533 \$46,114	8,515 \$50,665	4,915 \$53,644	3,527 \$59,702	4,451 \$62,019	2,348 \$68,024	1,083 \$73,221	661 \$81,916	40,130 \$53,658

**Distribution of Active Members by Age and by Years of Service
Hybrid Plan Members, General Employees
As of 06/30/2012**

Attained Age	Years of Credited Service												Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	131 \$34,371	86 \$37,262	21 \$36,508	29 \$36,027	14 \$35,248	2 \$27,501	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	283 \$35,573
25-29	412 \$39,191	318 \$42,086	240 \$42,759	243 \$41,474	289 \$40,539	216 \$42,871	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1,718 \$41,238
30-34	341 \$42,408	361 \$45,042	211 \$46,575	357 \$43,798	425 \$42,556	877 \$47,540	94 \$43,751	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	2,666 \$45,040
35-39	388 \$44,967	337 \$46,960	207 \$48,323	348 \$47,552	439 \$44,267	906 \$49,302	484 \$51,701	60 \$54,230	2 \$47,128	0 \$0	0 \$0	0 \$0	3,171 \$48,028
40-44	212 \$44,570	236 \$44,139	154 \$45,597	270 \$48,324	353 \$45,822	922 \$49,433	620 \$52,019	450 \$57,552	175 \$51,237	1 \$57,720	0 \$0	0 \$0	3,393 \$49,768
45-49	177 \$44,567	209 \$46,754	130 \$47,033	287 \$44,520	375 \$44,285	842 \$47,781	550 \$50,470	472 \$57,210	809 \$59,401	134 \$57,154	0 \$0	0 \$0	3,985 \$51,158
50-54	165 \$48,314	162 \$49,508	133 \$48,620	252 \$42,083	306 \$43,327	842 \$47,982	550 \$48,775	454 \$55,847	815 \$60,142	561 \$63,896	135 \$58,912	1 \$86,184	4,376 \$52,971
55-59	138 \$49,588	152 \$54,693	122 \$48,480	225 \$49,312	271 \$43,773	758 \$49,655	570 \$47,404	441 \$55,052	737 \$57,219	540 \$65,920	420 \$68,932	102 \$65,599	4,476 \$55,044
60-64	71 \$50,052	97 \$52,356	68 \$51,692	123 \$50,210	200 \$49,337	551 \$52,421	375 \$50,194	290 \$52,002	465 \$57,842	305 \$64,030	186 \$72,032	235 \$71,859	2,966 \$56,537
65 & Over	26 \$75,224	39 \$51,972	32 \$57,755	54 \$52,981	63 \$45,652	292 \$48,978	211 \$54,026	84 \$59,562	126 \$61,564	82 \$72,603	42 \$72,980	99 \$85,564	1,150 \$58,712
Total	2,061 \$43,775	1,997 \$46,220	1,318 \$46,843	2,188 \$45,644	2,735 \$44,013	6,208 \$48,761	3,454 \$50,149	2,251 \$55,918	3,129 \$58,471	1,623 \$64,474	783 \$68,158	437 \$73,536	28,184 \$51,072

**Distribution of Active Members by Age and by Years of Service
Hybrid Plan Members, Teachers
As of 06/30/2012**

Attained Age	Years of Credited Service												Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	
	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	Count & Avg. Comp.	
Under 25	168 \$41,940	63 \$42,668	1 \$42,509	0 \$0	232 \$42,140								
25-29	327 \$43,033	272 \$44,043	220 \$45,337	215 \$45,702	156 \$46,363	125 \$48,876	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1,315 \$45,014
30-34	222 \$48,133	142 \$47,310	136 \$47,716	173 \$49,026	201 \$48,209	645 \$51,096	61 \$54,861	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	1,580 \$49,600
35-39	190 \$48,837	114 \$47,840	103 \$50,117	128 \$53,788	149 \$54,069	476 \$53,741	456 \$57,879	53 \$61,393	0 \$0	0 \$0	0 \$0	0 \$0	1,669 \$53,962
40-44	102 \$52,687	66 \$52,451	67 \$52,030	81 \$57,874	86 \$57,736	312 \$59,747	283 \$61,459	518 \$63,516	56 \$63,916	0 \$0	0 \$0	0 \$0	1,571 \$60,146
45-49	66 \$52,483	53 \$52,923	40 \$52,432	72 \$52,931	64 \$56,694	214 \$60,008	173 \$64,214	219 \$63,521	442 \$67,910	26 \$71,241	0 \$0	0 \$0	1,369 \$62,480
50-54	53 \$48,132	38 \$55,350	49 \$57,981	54 \$56,714	59 \$60,605	198 \$61,612	161 \$64,372	157 \$72,189	275 \$68,565	311 \$72,752	18 \$77,671	0 \$0	1,373 \$66,213
55-59	45 \$49,651	25 \$59,195	41 \$52,746	49 \$57,165	40 \$69,661	163 \$59,048	147 \$67,268	145 \$70,491	262 \$73,013	188 \$78,158	173 \$81,916	20 \$86,962	1,298 \$70,056
60-64	24 \$50,508	24 \$52,800	42 \$51,147	23 \$45,483	29 \$58,809	122 \$60,922	117 \$64,056	134 \$68,610	232 \$74,470	160 \$78,777	77 \$88,103	100 \$91,380	1,084 \$71,313
65 & Over	12 \$49,410	10 \$53,118	15 \$51,885	8 \$78,181	14 \$64,708	52 \$63,837	63 \$70,717	50 \$77,621	55 \$76,985	40 \$82,551	32 \$111,803	104 \$107,062	455 \$82,061
Total	1,209 \$46,741	807 \$47,693	714 \$49,274	803 \$51,340	798 \$53,316	2,307 \$55,789	1,461 \$61,905	1,276 \$66,376	1,322 \$70,417	725 \$75,970	300 \$86,437	224 \$98,266	11,946 \$59,761

Summary of Pensions in Force by Type of Retirement

Employee Group	Contributory		Noncontributory		Hybrid	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
All Employees	22,601	\$ 2,315	11,919	\$ 1,538	3,310	\$ 2,090
	<u>Service</u>		<u>Service</u>		<u>Service</u>	
Total	22,038	\$ 2,345	11,108	\$ 1,593	3,162	\$ 2,133
General Employees - male	5,313	2,118	3,728	1,514	931	2,265
General Employees - female	7,324	1,548	4,118	1,174	1,321	1,787
Teachers - male	1,684	2,935	1,105	2,338	283	2,871
Teachers - female	4,628	2,723	2,157	2,148	627	2,331
Police and Firefighters	3,089	3,737	-	-	-	-
	<u>Ordinary Disability</u>		<u>Ordinary Disability</u>		<u>Ordinary Disability</u>	
Total	244	\$ 850	663	\$ 821	132	\$ 1,166
General Employees - male	86	853	317	810	66	1,138
General Employees - female	86	660	264	713	41	1,072
Teachers - male	8	1,361	33	1,310	10	1,166
Teachers - female	31	1,069	49	1,145	15	1,551
Police and Firefighters	33	1,009	-	-	-	-
	<u>Accidental Disability</u>		<u>Accidental Disability</u>		<u>Accidental Disability</u>	
Total	319	\$ 1,391	148	\$ 623	16	\$ 1,191
General Employees - male	119	1,315	88	662	10	1,170
General Employees - female	72	1,188	54	542	5	1,118
Teachers - male	1	1,093	2	780	-	-
Teachers - female	4	2,534	4	777	1	1,770
Police and Firefighters	123	1,550	-	-	-	-

Summary of Pensions in Force by Age and Type**General Employees**

Age	Type of Pension			
	Total	Service	Ordinary Disability	Accidental Disability
Total	23,943	22,735	860	348
	Contributory			
Total	13,000	12,637	172	191
30-39	-	-	-	-
40-44	1	1	-	-
45-49	7	7	-	-
50-54	52	33	9	10
55-59	468	442	14	12
60-64	1,042	993	26	23
65-69	1,601	1,556	22	23
70-74	1,735	1,688	19	28
75-79	2,363	2,310	25	28
80-84	2,554	2,502	21	31
85-89	2,043	1,998	21	24
90-94	886	866	10	10
95-99	228	221	5	2
100 & over	20	20	-	-
	Noncontributory			
Total	8,569	7,846	581	142
30-39	-	-	-	-
40-44	6	-	4	2
45-49	21	1	16	4
50-54	67	-	53	14
55-59	394	260	105	29
60-64	1,406	1,207	173	26
65-69	2,812	2,640	147	25
70-74	2,093	2,005	60	28
75-79	1,104	1,081	18	5
80-84	521	508	5	8
85-89	123	122	-	1
90-94	22	22	-	-
95-99	-	-	-	-
100 & over	-	-	-	-
	Hybrid			
Total	2,374	2,252	107	15
30-39	1	-	-	1
40-44	1	-	-	1
45-49	9	-	8	1
50-54	13	2	10	1
55-59	311	279	27	5
60-64	1,008	963	43	2
65-69	812	791	17	4
70-74	164	163	1	-
75-79	42	41	1	-
80-84	10	10	-	-
85-89	3	3	-	-
90-94	-	-	-	-
95-99	-	-	-	-
100 & over	-	-	-	-

Summary of Pensions in Force by Age and Type

Teachers

Age	Type of Pension			
	Total	Service	Ordinary Disability	Accidental Disability
Total	10,642	10,484	146	12
Contributory				
Total	6,356	6,312	39	5
30-39	-	-	-	-
40-44	-	-	-	-
45-49	-	-	-	-
50-54	2	2	-	-
55-59	106	103	3	-
60-64	548	542	6	-
65-69	1,193	1,186	7	-
70-74	1,186	1,177	8	1
75-79	1,328	1,326	2	-
80-84	1,127	1,119	4	4
85-89	551	546	5	-
90-94	219	216	3	-
95-99	68	67	1	-
100 & over	28	28	-	-
Noncontributory				
Total	3,350	3,262	82	6
30-39	-	-	-	-
40-44	1	-	1	-
45-49	4	-	4	-
50-54	5	-	4	1
55-59	57	42	13	2
60-64	572	543	29	-
65-69	1,331	1,307	22	2
70-74	875	866	9	-
75-79	327	327	-	-
80-84	129	128	-	1
85-89	43	43	-	-
90-94	6	6	-	-
95-99	-	-	-	-
100 & over	-	-	-	-
Hybrid				
Total	936	910	25	1
30-39	-	-	-	-
40-44	-	-	-	-
45-49	1	-	1	-
50-54	-	-	-	-
55-59	87	79	8	-
60-64	408	394	13	1
65-69	351	348	3	-
70-74	66	66	-	-
75-79	16	16	-	-
80-84	6	6	-	-
85-89	1	1	-	-
90-94	-	-	-	-
95-99	-	-	-	-
100 & over	-	-	-	-

Summary of Pensions in Force by Age and Type**Police and Firefighters**

Age	Type of Pension			
	Total	Service	Ordinary Disability	Accidental Disability
Total	3,245	3,089	33	123
30-39	-	-	-	-
40-44	5	-	3	2
45-49	35	31	3	1
50-54	217	204	3	10
55-59	527	506	6	15
60-64	777	750	5	22
65-69	721	682	5	34
70-74	467	449	2	16
75-79	245	233	2	10
80-84	119	111	-	8
85-89	87	85	2	-
90-94	39	33	2	4
95-99	6	5	-	1
100 & over	-	-	-	-

Noncontributory Service Pensions in Force
by Years of Service

Years of Service	Total		General Employees		Teachers	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	11,108	\$ 1,591	7,846	\$ 1,333	3,262	\$ 2,210
Less than 5	13	245	9	187	4	375
5-9	75	320	64	266	11	633
10-14	2,324	531	1,969	502	355	693
15-19	1,546	856	1,260	806	286	1,075
20-24	1,493	1,102	1,137	1,022	356	1,359
25-29	1,165	1,686	823	1,509	342	2,111
30-34	2,747	2,333	1,527	2,131	1,220	2,586
35 and over	1,745	2,919	1,057	2,648	688	3,336

Noncontributory Service Pensions in Force
by Years Since Retirement

Years Since Retirement	Total		General Employees		Teachers	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	11,108	\$ 1,593	7,846	\$ 1,336	3,262	\$ 2,213
Less than 5	3,448	1,525	2,624	1,329	824	2,149
5-9	3,982	1,611	2,733	1,347	1,249	2,189
10-14	2,281	1,582	1,572	1,267	709	2,282
15-19	1,203	1,771	791	1,490	412	2,311
20-24	188	1,472	122	1,132	66	2,102
25 and over	6	903	4	661	2	1,387

Contributory Service Pensions in Force
by Years of Service

Years of Service	Total		General Employees		Teachers		Police and Firefighters	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	22,038	\$ 2,345	12,637	\$ 1,787	6,312	\$ 2,780	3,089	\$ 3,737
Less than 5	35	287	27	301	7	254	1	145
5-9	864	349	692	362	167	290	5	469
10-14	1,586	645	1,334	635	212	632	40	1,051
15-19	2,016	1,069	1,641	1,015	322	1,236	53	1,734
20-24	2,713	1,554	2,014	1,394	569	1,872	130	2,639
25-29	6,549	2,559	2,990	1,988	1,708	2,567	1,851	3,473
30-34	5,919	3,176	2,496	2,634	2,508	3,214	915	4,550
35 and over	2,356	3,570	1,443	3,110	819	4,214	94	5,035

Contributory Service Pensions in Force
by Years Since Retirement

Years Since Retirement	Total		General Employees		Teachers		Police and Firefighters	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	22,038	\$ 2,345	12,637	\$ 1,787	6,312	\$ 2,780	3,089	\$ 3,737
Less than 5	2,214	3,518	1,146	2,654	434	3,878	634	4,833
5-9	3,195	3,104	1,580	2,410	956	3,556	659	4,112
10-14	3,116	2,581	1,617	1,952	920	3,081	579	3,544
15-19	4,666	2,523	2,592	2,014	1,457	2,991	617	3,555
20-24	3,770	1,857	2,261	1,447	1,221	2,392	288	2,802
25-29	3,083	1,571	2,042	1,312	874	1,971	167	2,639
30-34	1,490	1,229	1,086	1,072	321	1,532	83	2,113
35 and over	504	954	313	786	129	1,036	62	1,628

Pensions in Force by Payment Option

General Employees

Type of Option	Total		Service		Ordinary Disability		Accidental Disability		Other	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	23,943	\$ 1,611	22,735	\$ 1,651	860	\$ 807	348	\$ 997	-	\$ -
Contributory										
Total	13,000	\$ 1,766	12,637	\$ 1,787	172	\$ 756	191	\$ 1,267	-	\$ -
Maximum	1,608	1,778	1,568	1,798	23	1,029	17	941	-	-
Option 1	867	1,208	819	1,226	27	813	21	1,007	-	-
Option 2	693	2,103	664	2,135	11	1,201	18	1,490	-	-
Option 3	353	2,706	343	2,747	7	858	3	2,346	-	-
Option 4	5,360	2,020	5,224	2,044	54	738	82	1,339	-	-
Option 5	4,119	1,411	4,019	1,424	50	507	50	1,225	-	-
Noncontributory										
Total	8,569	\$ 1,285	7,846	\$ 1,336	581	\$ 766	142	\$ 617	-	\$ -
Maximum	4,672	1,298	4,376	1,335	224	794	72	620	-	-
Option A	1,647	1,369	1,536	1,407	88	894	23	629	-	-
Option B	1,759	1,149	1,482	1,235	236	699	41	622	-	-
Option C	491	1,370	452	1,431	33	707	6	494	-	-
Hybrid										
Total	2,374	\$ 1,940	2,252	\$ 1,985	107	\$ 1,112	15	\$ 1,152	-	\$ -
Maximum	917	1,811	887	1,834	25	1,153	5	1,163	-	-
Option 1	174	1,813	167	1,829	5	1,532	2	1,153	-	-
Option 2	536	1,859	482	1,947	48	1,061	6	1,136	-	-
Option 3	372	2,422	359	2,466	11	1,207	2	1,175	-	-
Option 4	245	2,179	236	2,220	9	1,103	-	-	-	-
Option 5	130	1,521	121	1,565	9	934	-	-	-	-

Pensions in Force by Payment Option

Teachers

Type of Option	Total		Service		Ordinary Disability		Accidental Disability		Other	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	10,642	\$ 2,559	10,484	\$ 2,579	146	\$ 1,221	12	\$ 1,472	-	\$ -
Contributory										
Total	6,356	\$ 2,769	6,312	\$ 2,780	39	\$ 1,129	5	\$ 2,245	-	\$ -
Maximum	909	3,084	900	3,102	9	1,362	-	-	-	-
Option 1	326	2,134	321	2,156	4	788	1	393	-	-
Option 2	228	2,825	228	2,825	-	-	-	-	-	-
Option 3	153	3,669	150	3,705	2	2,301	1	1,093	-	-
Option 4	2,393	3,119	2,378	3,130	13	1,208	2	2,672	-	-
Option 5	2,347	2,314	2,335	2,321	11	757	1	4,398	-	-
Noncontributory										
Total	3,350	\$ 2,185	3,262	\$ 2,213	82	\$ 1,212	6	\$ 778	-	\$ -
Maximum	2,174	2,246	2,120	2,272	50	1,254	4	814	-	-
Option A	542	2,255	535	2,268	6	1,269	1	1,049	-	-
Option B	453	1,860	428	1,906	24	1,109	1	368	-	-
Option C	181	2,062	179	2,071	2	1,202	-	-	-	-
Hybrid										
Total	936	\$ 2,469	910	\$ 2,499	25	\$ 1,397	1	\$ 1,770	-	\$ -
Maximum	411	2,368	401	2,390	10	1,475	-	-	-	-
Option 1	56	2,376	55	2,391	1	1,538	-	-	-	-
Option 2	197	2,344	191	2,375	5	1,294	1	1,770	-	-
Option 3	142	2,814	138	2,858	4	1,323	-	-	-	-
Option 4	68	2,764	65	2,838	3	1,171	-	-	-	-
Option 5	62	2,500	60	2,527	2	1,677	-	-	-	-

Pensions in Force by Payment Option

Police and Firefighters

Type of Option	Total		Service		Ordinary Disability		Accidental Disability		Other	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	3,245	\$ 3,626	3,089	\$ 3,737	33	\$ 1,009	123	\$ 1,550	-	\$ -
Maximum	88	3,279	68	3,775	-	-	20	1,593	-	-
Option 1	30	3,586	24	3,788	1	2,229	6	2,779	-	-
Option 2	104	3,685	92	3,948	7	1,430	5	2,008	-	-
Option 3	31	3,944	28	4,208	2	1,180	1	2,078	-	-
Option 4	1,878	4,006	1,831	4,072	13	1,056	34	1,569	-	-
Option 5	1,113	3,001	1,046	3,116	10	498	57	1,344	-	-

Pensions in Force by Payment Option

General Employees - New Retirees

Type of Option	Total		Service		Ordinary Disability		Accidental Disability		Other	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	1,323	\$ 1,661	1,278	\$ 1,688	39	\$ 870	6	\$ 1,090	-	\$ -
Contributory										
Total	163	\$ 2,584	162	\$ 2,589	-	\$ -	1	\$ 1,680	-	\$ -
Maximum	21	2,235	21	2,235	-	-	-	-	-	-
Option 1	7	2,612	7	2,612	-	-	-	-	-	-
Option 2	23	2,726	23	2,726	-	-	-	-	-	-
Option 3	13	3,713	13	3,713	-	-	-	-	-	-
Option 4	77	2,604	76	2,616	-	-	1	1,680	-	-
Option 5	22	2,020	22	2,020	-	-	-	-	-	-
Noncontributory										
Total	587	\$ 1,219	561	\$ 1,238	22	\$ 777	4	\$ 962	-	\$ -
Maximum	283	1,149	277	1,153	4	892	2	1,071	-	-
Option A	123	1,299	119	1,319	4	702	-	-	-	-
Option B	146	1,249	130	1,307	14	766	2	853	-	-
Option C	35	1,383	35	1,383	-	-	-	-	-	-
Hybrid										
Total	573	\$ 1,850	555	\$ 1,878	17	\$ 989	1	\$ 1,013	-	\$ -
Maximum	232	1,705	226	1,723	5	1,013	1	1,013	-	-
Option 1	41	1,696	41	1,696	-	-	-	-	-	-
Option 2	135	1,901	129	1,946	6	930	-	-	-	-
Option 3	72	2,442	69	2,503	3	1,053	-	-	-	-
Option 4	60	1,876	58	1,901	2	1,137	-	-	-	-
Option 5	33	1,522	32	1,546	1	736	-	-	-	-

Pensions in Force by Payment Option

Teachers - New Retirees

Type of Option	Total		Service		Ordinary Disability		Accidental Disability		Other	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	479	\$ 2,245	473	\$ 2,258	6	\$ 1,259	-	\$ -	-	\$ -
Contributory										
Total	56	\$ 3,627	56	\$ 3,627	-	-	-	\$ -	-	\$ -
Maximum	7	3,375	7	3,375	-	-	-	-	-	-
Option 1	4	2,170	4	2,170	-	-	-	-	-	-
Option 2	3	2,861	3	2,861	-	-	-	-	-	-
Option 3	8	3,139	8	3,139	-	-	-	-	-	-
Option 4	23	4,146	23	4,146	-	-	-	-	-	-
Option 5	11	3,797	11	3,797	-	-	-	-	-	-
Noncontributory										
Total	179	\$ 1,805	178	\$ 1,807	1	\$ 1,391	-	\$ -	-	\$ -
Maximum	106	1,839	106	1,839	-	-	-	-	-	-
Option A	31	2,070	31	2,070	-	-	-	-	-	-
Option B	38	1,601	37	1,606	1	1,391	-	-	-	-
Option C	4	782	4	782	-	-	-	-	-	-
Hybrid										
Total	244	\$ 2,251	239	\$ 2,273	5	\$ 1,233	-	\$ -	-	\$ -
Maximum	105	2,214	104	2,225	1	1,024	-	-	-	-
Option 1	10	2,157	9	2,226	1	1,538	-	-	-	-
Option 2	58	2,246	57	2,267	1	1,042	-	-	-	-
Option 3	36	2,431	35	2,472	1	1,023	-	-	-	-
Option 4	18	2,261	17	2,304	1	1,539	-	-	-	-
Option 5	17	2,164	17	2,164	-	-	-	-	-	-

Pensions in Force by Payment Option

Police and Firefighters - New Retirees

Type of Option	Total		Service		Ordinary Disability		Accidental Disability		Other	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
Total	165	\$ 4,738	165	\$ 4,738	-	\$ -	-	\$ -	-	\$ -
Maximum	6	4,662	6	4,662	-	-	-	-	-	-
Option 1	2	6,000	2	6,000	-	-	-	-	-	-
Option 2	12	4,418	12	4,418	-	-	-	-	-	-
Option 3	4	4,451	4	4,451	-	-	-	-	-	-
Option 4	123	4,833	123	4,833	-	-	-	-	-	-
Option 5	18	4,253	18	4,253	-	-	-	-	-	-

SECTION N

DEFINITION OF ACTUARIAL TERMS

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.