Gabriel Roeder Smith & Company
Consultants & Actuaries

EMPLOYEES' RETIREMENT SYSTEM OF THE STATE OF HAWAII

REPORT TO BOARD OF TRUSTEES ON THE 86TH ANNUAL ACTUARIAL VALUATION

FOR THE YEAR BEGINNING JUNE 30, 2011

GRS
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February 27, 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, 2011

We certify that the information contained in the 2011 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, 2011.

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, 2011, ERS's underfunded status has increased due to continued recognition of these market investment losses. The System's UAAL also increased due to the adoption of new actuarial assumptions. The lowering of the investment return assumption from 8.00% to 7.75% significantly increased the UAAL. However, the System had a partially offsetting liability experience gain which was caused primarily by lower than expected salary increases. The UAAL is now $8.154 billion.

The 2011 Legislature made significant changes to the future employer contribution rates. The current 19.70% for Police and Fire employees will gradually increase to 25.00%, and the 15.00% 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 is 25 years. Because this period is less than 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.

The System is still deferring $300 million in deferred investment losses. 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. 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, the investment return assumption is 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 this valuation. In addition, the Board of Trustees was given the authority to set this assumption for fiscal years after 2011.

Our Experience Study report dated December 20, 2010 provides details on the changes to the actuarial assumptions. A brief summary of the significant changes are shown below.

- Decrease the assumed real return on investments (net of expenses)--the return in excess of inflation--from 5.00% to 4.75%. (Combined with the 3.00% inflation assumption, this results in a decrease to the nominal investment return rate assumption from 8.00% to 7.75%)
- Change the salary increase rates to reflect a larger productivity component for Police & Fire. Small changes also made to service-based components for all groups. The overall impact is to increase assumed salary increase rates for all employees.
- Decrease the rates of mortality for healthy retirees and beneficiaries for most employee groups. Recommend retaining current mortality tables, but modifying the percentages applied to reflect experience and allow for future mortality improvements.
- Modify the rates of mortality for disabled retirees.
- Increase the rates of mortality for active employees.
- Modify the rates of disability for active employees.
- Modify the rates of retirement for most employees. Lower rates at most ages.
- Modify the rates of termination for both males and females for each of the groups.

In addition to the assumption changes, we also recommended a modification to the asset valuation method from an individual base recognition method to an aggregate base recognition method.

The Board also made one other funding method change in conjunction with this valuation. The Board continues to use the Entry Age Normal actuarial cost method for determining the liabilities of the System. However, in prior years the Ultimate Normal Cost method was used in the determination of the normal cost and accrued liabilities of the System. The Board has decided to adopt the use of the Individual Normal Cost method to determine the normal cost and liabilities of the System effective with this 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, 2011, by ERS's staff. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data. Asset information was supplied by ERS's staff.

RESPONSIBILITY FOR TABLES AND SCHEDULES

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

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

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries and consultants. Mr. Newton is an Enrolled Actuaries, a Member of the American Academy of 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, 2011 actuarial valuation of the Employees' Retirement System of the State of Hawaii (ERS).

Item	2011	2010
Membership		
• Number of		
- Active members	65,310	65,890
- Retirees and beneficiaries	39,689	38,441
- Inactive, vested	6,649	6,895
- Total	111,648	111,226
• Covered payroll for active members	$3,731.4 million	$3,713.6 million
• Actual benefit payments and refunds	$968.1 million	$914.1 million
Assets		
• Actuarial value	$11,942.8 million	$11,345.6 million
• Market value	$11,642.3 million	$9,821.6 million
• Return on actuarial value	7.1%	(0.4%)
• Return on market value	20.8%	11.5%
• Employer contributions during fiscal year	$534,857,778	$547,612,717
• External cash flow %	(1.9%)	(0.2%)
Actuarial Information		
• Total normal cost % (employee + employer)	11.06%	12.60%
• Unfunded actuarial accrued liability (UAAL)	$8,154.2 million	$7,138.1 million
• Funded ratio (based on actuarial assets)	59.4%	61.4%
• Funded ratio (based on market assets)	57.9%	53.1%
• Funding period (years)*	25.0	41.3
• Employer contribution rate		
% of projected payroll**		
For FY 2012 & Beyond	15.52%	15.49%
• GASB ARC for FY 2012		
% of projected payroll		
Police & Fire Employees	25.47%	22.33%
All Other Employees	17.67%	16.23%
Composite - All Employees	18.56%	16.90%

* Funding Period for 2010 based on actuarial value of assets and current employer contribution rates of 15.00% for All Other Employees and 19.70% for Police and Fire.
Funding Period for 2011 based on open group projection reflecting changes in benefits and future contribution rates.

** Weighted average of 19.70% Contribution Rate for Police and Firefighters and 15.00% Contribution Rate for All Other Employees.

SECTION B

INTRODUCTION

Introduction

The results of the June 30, 2011 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 $23.6 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 20.29% of pay for Police and Fire employees and 9.87% for All Other employees. It includes all of the employees' contribution (if any) and the employers' normal cost rate. This may be thought of as the total (member plus employer) contribution rate needed to pay for the average new member over their career.

- A part of the normal cost is paid by the employee contributions of 12.20% of pay for Police and Firefighters, leaving 8.09% of pay to be funded by the employers. Thus the current year's employer normal cost for Police and Firefighters is deemed to be 8.09% of the valuation payroll. As for the All Other Employees group, the average weighted effective employee contribution rate is 4.09% of pay, leaving 5.78% of pay to be funded by the employers. This is shown in Line 3 of Table 1.

- As can be seen on Table 3, the normal cost for Police and Firefighters is significantly higher than in the prior valuation. This is due to the change in actuarial assumptions. As may also be seen, the normal cost of All Other employees is significantly less than in the prior valuation. This is due to the adoption, by the ERS trustees, of the Entry Age Normal Individual Normal

Cost method. In the prior valuation the Entry Age Normal Ultimate Normal Cost method was being used. Because many of the All Other Employees group are covered by the less expensive Noncontributory Plan, the use of their actual normal cost produces an average normal cost for the group which is significantly lower than the average normal cost of the Hybrid Plan which was used to determine the normal cost for all employees last year under the Ultimate Normal Cost method.

- The UAAL is $8.154 billion for 2011, an increase from $7.138 billion in 2010. 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 25 years for Police and Fire and 25 years for the All Other Employees group. The aggregate funding period for ERS is 25 years. Since the aggregate funding period based on the contribution rates is less than 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 59.4%, 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 2036 which is 25 years from now. Therefore, the funding period is equal to 25 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 $8.154 billion as of June 30, 2011 compared to the $7.138 billion UAAL for 2010.

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, 2011 is $12.043 billion. As developed in Table 6, the actual value of actuarial assets as of the valuation date is $11.943 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 $100.2 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 7.11% (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.

FY 2012 was an excellent year with a return on the market value of assets of 20.84%. This continues the recovery in the financial markets that started with an 11.46% return in FY2010. However the market return of -18.0% from FY2009 was very unfavorable. The FY2009 return missed the 8% rate of return target by 26%, while FY2011 and FY 2010 only exceeded the 8% return target by 12.84% and 3.46% respectively. The rate of return for the actuarial value was 7.11%, which is less than the market return because of the deferred recognition of the FY2009 loss. The actuarial value of assets exceeds the market value of assets by $300 million, so there are $300 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 over $1.500 billion in deferred losses, so about $1.2 billion in investment losses were recognized (or offset by investment gains) in this valuation.

Table 9a indicates that the total actuarial experience loss for the 2010/2011 plan year was $758.9 million (Item 7). As noted above, the actuarial investment loss was equal to $100.2 million. This means that there was a liability loss during the year equal to $658.7 million. This loss can be broken up into three distinct categories. The new assumptions adopted by the Board created an actuarial loss of $521.5 million. The new individual normal cost method caused an actuarial loss of approximately $189.4 million. As shown in Item 11 the remaining change was a liability experience gain of approximately $52.2 million primarily due to actual salary increases being less the current salary scale assumption.

Table 9c shows 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 2036, which is 25 years from this valuation. Therefore, for the purpose of satisfying Hawaii Revised Statutes §88-122(e)(1) the funding period is considered to be 25 years.

SECTION E

ERS ASSETS

ERS Assets

Table 4 presents a summary of the market value of assets held by the ERS. About 77% of the total assets available for benefits are held in equities (including alternative investments) and real estate compared to about 68% 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 20.84%, the return on the actuarial value was 7.11%. The difference between these is due to the smoothing effect of the AVA valuation method.

Table 9b determines the asset gain or loss for the year, based on the difference between the actual fund return and the assumed rate of 8%. Note that because the 7.75% return assumption was adopted effective with this valuation, the expected return for the prior year was still 8.00%. Beginning with next year the expected return will be 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. In fact, the changes in the benefit provisions will not impact the normal cost and accrued liabilities until 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 9.75% for Hybrid Plan employees entitled to the age 55 with 25 years of service normal retirement eligibility)

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

Legislation was also enacted 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 38,000 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 2012 is 18.24% of pay for all employees (if determined separately, the ARC is 22.33% for Police and Fire and 16.23% 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.

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. The investment return assumption is set by statute (effective with the June 30, 2012 actuarial valuation the Board will also set the investment return assumption).

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.

As discussed previously, ERS’s Board adopted new actuarial assumptions in December 2010 to be used effective with the June 30, 2011 actuarial valuation. In addition, the Board adopted a modification to the method used for determining the actuarial value of assets. Also, the 2011 Legislature changed the statutory rate of return assumption from 8.00% to 7.75% effective with the June 30, 2011 valuation.

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.

The changes in the actuarial assumptions (both statutory and Board adopted) resulted in a $521 million increase in the liabilities of the system. The change to the Individual Normal Cost method decreased the normal cost for the All Other Employees group of employees. It also increased the accrued liability for this group of employees by $189 million.

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 2011, 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 decreased by 580 members from 65,890 to 65,310. These 65,310 active members are distributed as follows:

Category	Number	% of Total
(1)	(2)	(3)
Police & Fire	4,965	7.6%
Contributory	1,787	2.7%
Noncontributory	20,112	30.8%
Hybrid Plan	38,446	58.9%
Total	65,310	100.00%

Total payroll increased 0.5% since last year. The salary figures reported this year continued to be impacted by furlough days that occurred in fiscal year 2011. These reductions in pay should be temporary and compensation levels may return to normal when the furloughs 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 furloughs 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, 2011.

Average age and average service of the active members both increased this year. Average age increased from 47.1 years to 47.4 years, while average service increased from 13.2 years to 13.4 years. These increases were due to the limited number of new hires replacing those members who retired or terminated during the year.

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, 2011, 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 significant changes made to the future employer contribution patterns and the benefits payable to employees hired after June 30, 2012 has resulted in the estimated time to eliminate the unfunded liability of the System to 25 years. This is down from 41 years at the prior valuation. The funding period is equal to the 25-year period preferred by the Board and is less than the 30-year maximum period specified by Hawaii Revised Statute 88-122(e)(1).

The significant positive return on investments decreased the amount of unrecognized investment losses from $1,524 million last year to about $300 million this year. However, there are still deferred investment losses to be recognized in future valuations. In the absence of offsetting gains the funded position of the plan should decline over the next several valuations.

In our opinion, the results of the actuarial valuation of the Employees' Retirement System of the State of Hawaii as of June 30, 2011 are positive. The System experienced an excellent return of assets of over 20% on a market value basis. In addition, the funded ratio based on the market value of assets increased since the prior valuation and the changes enacted by the Legislature decreased the period of time over which the unfunded liabilities of the System are expected to be eliminated.

However, there are still some concerns for the future. The key ones are as follow:

- The actuarial asset method is still deferring $300 million in deferred investment losses.
- The funded ratio based on the market value of assets is still only 58%.
- The current economic condition in the State, especially for furloughs and levels of employment, are uncommonly uncertain. 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.
- While the 2011 return on investments was very good, the outlook for fiscal year 2012 halfway through the year is not optimistic.

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SECTION K

ACTUARIAL CERTIFICATION STATEMENT

Actuarial Certification Statement

	Police and Firefighters June 30, 2011	All Other Employees June 30, 2011	All Employees June 30, 2011
	(1)	(2)	(3)
1. Gross normal cost as a percentage of pay	20.29%	9.87%	11.06%
2. Present value of future benefits			
a. Active employees	$ 2,578,173,870	$ 10,447,770,188	$ 13,025,944,058
b. Inactive members	26,631,323	334,620,862	361,252,185
c. Pensioners and beneficiaries	1,649,313,937	8,534,399,292	10,183,713,229
d. Total	$ 4,254,119,130	$ 19,316,790,342	$ 23,570,909,472
3. Present value of future employee and employer contributions			
a. Present value of future normal costs	$ 810,307,888	$ 2,663,671,216	$ 3,473,979,104
b. Present value of future employee contributions	488,554,929	1,121,892,868	1,610,447,797
c. Present value of future employer normal costs (Item 3a - Item 3b)	$ 321,752,959	$ 1,541,778,348	$ 1,863,531,307
4. Actuarial accrued liability (Item 2d - Item 3a)	$ 3,443,811,242	$ 16,653,119,126	$ 20,096,930,368
5. Actuarial value of assets			
a. Annuity Savings Fund	$ 750,184,689	$ 902,828,600	$ 1,653,013,289
b. Pension Accumulation Fund	1,431,084,495	8,858,655,576	10,289,740,071
c. Total	$ 2,181,269,184	$ 9,761,484,176	$ 11,942,753,360
6. Unfunded actuarial accrued liability	$ 1,262,542,058	$ 6,891,634,951	$ 8,154,177,009
7. Adequacy of contribution rates			
a. Statutory Contribution Rate for Fiscal Year Fiscal Year 2012	19.70%	15.00%	15.52%
b. Funding Period in years as of June 30, 2011*	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 Certification Statement

The actuarial valuation as of June 30, 2011 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 statutory requirements and on the actuary's actuarial experience investigation report covering the five-year period July 1, 2005 – June 30, 2010. The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures.

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

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

Joe Newton

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

SECTION L

TABLES

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Development of Employer Cost

	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	$ 9,761,484,175	$ 11,942,753,359
9. Unfunded actuarial accrued liability (UAAL) (Item 7 - Item 8)	$ 1,262,542,058	$ 6,891,634,951	$ 8,154,177,009
10. Funding Period*	25.0	25.0	25.0

	Police and Firefighters June 30, 2010 (1)	All Other Employees June 30, 2010 (2)	All Employees June 30, 2010 (3)
1. Payroll (adjusted for one year's pay increase)	$ 409,981,764	$ 3,485,680,056	$ 3,895,661,820
2. Gross normal cost (Table 3)	18.80%	11.84%	12.60%
3. Employer normal cost rate (Table 3)	6.60%	5.79%	5.90%
4. Present value future benefits (Table 2)	$ 3,792,679,031	$ 17,727,864,418	$ 21,520,543,449
5. Present value future employer normal cost	$ 230,448,395	$ 1,370,946,568	$ 1,601,394,963
6. Present value future employee contributions	$ 427,872,784	$ 1,007,607,111	$ 1,435,479,895
7. Actuarial accrued liability (Item 4 - Item 5 - Item 6)	$ 3,134,357,852	$ 15,349,310,739	$ 18,483,668,591
8. Actuarial value of assets	$ 2,059,850,670	$ 9,285,767,336	$ 11,345,618,006
9. Unfunded actuarial accrued liability (UAAL) (Item 7 - Item 8)	$ 1,074,507,182	$ 6,063,543,403	$ 7,138,050,585
10. Funding Period	47.2	40.0	41.3

* 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, 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. Temination 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	$ 2,578,173,870	$ 10,447,770,188	$ 13,025,944,058
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	$ 1,649,313,937	$ 8,534,399,292	$ 10,183,713,229
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	$ 26,631,323	$ 334,620,862	$ 361,252,185
4. Total actuarial present value of future benefits	$ 4,254,119,130	$ 19,316,790,342	$ 23,570,909,472

	Police and Firefighters June 30, 2010 (1)	All Other Employees June 30, 2010 (2)	All Employees June 30, 2010 (3)
1. Active members			
a. Service retirement benefits	$ 2,172,339,539	$ 8,704,119,614	$ 10,876,459,153
b. Temination Benefits	74,687,019	702,394,185	777,081,204
c. Survivor benefits	31,229,521	123,661,071	154,890,592
d. Disability retirement benefits	9,921,228	80,839,411	90,760,639
e. Total	$ 2,288,177,307	$ 9,611,014,281	$ 11,899,191,588
2. Retired members			
a. Service retirement	$ 1,389,258,142	$ 7,321,907,514	$ 8,711,165,656
b. Disability retirement	26,828,669	135,756,765	162,585,434
c. Beneficiaries	61,499,437	324,175,371	385,674,808
d. Total	$ 1,477,586,248	$ 7,781,839,650	$ 9,259,425,898
3. Inactive members			
a. Vested terminations	$ 24,076,211	$ 318,021,167	$ 342,097,378
b. Nonvested terminations	2,839,265	16,989,320	19,828,585
c. Total	$ 26,915,476	$ 335,010,487	$ 361,925,963
4. Total actuarial present value of future benefits	$ 3,792,679,031	$ 17,727,864,418	$ 21,520,543,449

Analysis of Normal Cost

	Police and Firefighters June 30, 2011	All Other Employees June 30, 2011	All Employees June 30, 2011
	(1)	(2)	(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%

	Police and Firefighters June 30, 2010	All Other Employees June 30, 2010	All Employees June 30, 2010
	(1)	(2)	(3)
1. Normal cost as a percent of pay			
a. Service retirement benefits	16.06%	8.41%	9.25%
b. Deferred termination benefits	0.70%	1.19%	1.14%
c. Refunds	1.45%	1.84%	1.79%
d. Disability retirement benefits	0.16%	0.18%	0.18%
e. Survivor benefits	0.43%	0.22%	0.24%
f. Total	18.80%	11.84%	12.60%
2. Employee contribution rate	12.20%	6.05%	6.70%
3. Effective employer normal cost rate (Item 1f - Item 2)	6.60%	5.79%	5.90%

Plan Net Assets
(Assets at Market or Fair Value)

Item	Valuation as of June 30, 2011	Valuation as of June 30, 2010
(1)	(2)	(3)
1. Cash and cash equivalents	$ 479,890,833	$ 529,665,198
2. Receivables:		
a. Accounts receivable and others	$ 12,595,911	$ 9,419,885
b. Investment sale proceeds	278,514,348	419,310,775
c. Accrued income	38,455,810	37,595,244
d. Employer contributions	17,961,027	50,106,075
e. Member contributions	4,439,724	3,806,490
f. Subtotal	$ 351,966,820	$ 520,238,469
3. Investments		
a. Equity securities	$ 7,356,801,263	$ 5,350,603,332
b. Fixed income securities	2,503,015,047	2,699,629,677
c. Real estate investments	1,126,471,644	966,230,009
d. Real estate mortgages	-	-
e. Alternative investments	523,988,259	492,083,165
f. Subtotal	$ 11,510,276,213	$ 9,508,546,183
4. Other		
a. Invested securities lending collateral	$ 963,200,220	$ 724,030,229
b. Equipment at cost, net of depreciation	8,374,154	9,943,647
c. Other assets	-	-
d. Subtotal	$ 971,574,374	$ 733,973,876
5. Total assets	$ 13,313,708,240	$ 11,292,423,726
6. Liabilities		
a. Bank overdraft	$ 7,716,253	$ 7,975,840
b. Accounts payable	52,570,542	44,058,035
c. Investment commitments payable	385,591,146	436,860,788
d. Due to employers	-	-
e. Securities lending collateral	963,200,220	724,030,229
f. Notes payable	262,352,002	257,866,002
g. Total liabilities	$ 1,671,430,163	$ 1,470,790,894
7. Total market value of assets available for benefits (Item 5 - Item 6g)	$ 11,642,278,077	$ 9,821,632,832

Reconciliation of Plan Net Assets

		Year Ending June 30, 2011 (1)	Year Ending June 30, 2010 (2)
1.	a. Value of assets at beginning of year	$ 9,821,632,832	$ 8,817,953,015
	b. Adjustment due to post valuation changes in CAFR assets	(2,621,029)	-
	c. Adjusted value of assets at beginning of year	$ 9,819,011,803	$ 8,817,953,015
2.	Revenue for the year		
	a. Contributions		
	i. Member contributions	$ 230,998,106	$ 360,047,068
	ii. Employer contributions	534,857,778	547,612,717
	iii. Total	$ 765,855,884	$ 907,659,785
	b. Income		
	i. Interest, dividends, and other income	$ 310,695,148	$ 283,726,584
	ii. Investment expenses	(40,401,970)	(35,029,540)
	iii. Net	$ 270,293,178	$ 248,697,044
	c. Net realized and unrealized gains (loss)	$ 1,768,563,934	$ 773,682,562
	d. Net income (loss)	$ 2,038,857,112	$ 1,022,379,606
	e. Total revenue	$ 2,804,712,996	$ 1,930,039,391
3.	Expenditures for the year		
	a. Refunds	$ 7,901,509	$ 7,762,738
	b. Benefit payments	960,219,432	906,386,191
	c. Administrative and miscellaneous expenses	13,325,781	12,210,645
	d. Total expenditures	$ 981,446,722	$ 926,359,574
4.	Increase (decrease) in net assets (Item 2e - Item 3d)	$ 1,823,266,274	$ 1,003,679,817
5.	Value of assets at end of year (Item 1c + Item 4)	$ 11,642,278,077	$ 9,821,632,832

Development of Actuarial Value of Assets

		Year Ending June 30, 2011
1.	Actuarial value of assets, beginning of year	$ 11,345,618,006
2.	Net new investments	
	a. Contributions	$ 765,855,884
	b. Benefits paid	(960,219,432)
	c. Refunds	(7,901,509)
	d. Subtotal	(202,265,057)
3.	Market value of assets at end of year	$ 11,642,278,077
4.	Expected return	$ 899,558,838
5.	Expected actuarial value of assets, end of year	$ 12,042,911,787
6.	Excess/(shortfall) return (Item 3-Item 5)	$ (400,633,710)
7.	Excess/(shortfall) recognized (25% of Iterm 7)	$ (100,158,427)
8.	Actuarial value of assets as of June 30, 2011 (Item 5 + Item 7)	$ 11,942,753,360
9.	Ratio of actuarial value to market value	102.6%

Estimation of Yields

	June 30, 2011 (1)	June 30, 2010 (2)
A. Market value yield		
1. Beginning of year market assets	$ 9,819,011,803	$ 8,817,953,015
2. Investment income		
a. Change in assets (Item 3 - Item 1)	$ 1,823,266,274	$ 1,003,679,817
b. Cash Flow (excluding expenses)	(202,265,057)	(6,489,144)
c. Total investment income based on market value (Item 2a less Item 2b)	$ 2,025,531,331	$ 1,010,168,961
3. End of year market assets	$11,642,278,077	$ 9,821,632,832
4. Estimated dollar weighted market value yield (net of investment and administrative expenses)	20.84%	11.46%
B. Actuarial value yield		
1. Beginning of year actuarial assets	$11,345,618,006	$11,400,116,874
2. Investment income (based on asset valuation method)		
a. Change in assets (Item 3 - Item 1)	$ 597,135,354	$ (54,498,868)
b. Cash Flow	(202,265,057)	(6,489,144)
c. Total investment income based on market value (Item 2a less Iterm 2b)	$ 799,400,411	$ (48,009,724)
3. End of year actuarial assets	$11,942,753,360	$11,345,618,006
4. Estimated actuarial value yield (net of investment and administrative expenses)	7.11%	-0.42%

Allocation of Cash and Investments

		June 30, 2011	June 30, 2010
		(1)	(2)
1.	Cash and short-term equivalents	4.0%	5.3%
2.	Fixed income securities	20.9%	26.9%
3.	Equity securities	61.3%	53.3%
4.	Real estate	9.4%	9.6%
5.	Other	4.4%	4.9%
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, 2010	$ 1,074,507,182	$ 6,063,543,403	$ 7,138,050,585
2. Normal cost for the year (employer and employee)	$ 77,076,572	$ 387,029,675	$ 464,106,247
3. Less: contributions and assessments for the year	$ (117,355,282)	$ (648,500,602)	$ (765,855,884)
4. Interest at 8 %			
a. On UAAL	$ 85,960,575	$ 485,083,472	$ 571,044,047
b. On normal cost	3,083,063	15,481,187	18,564,250
c. On contributions	(4,694,211)	(25,940,024)	(30,634,235)
d. Total	$ 84,349,427	$ 474,624,635	$ 558,974,062
5. Expected UAAL as of June 30, 2011 (Sum of Items 1 - 4)	$ 1,118,577,899	$ 6,276,697,111	$ 7,395,275,010
6. Actual UAAL as of June 30, 2011	$ 1,262,542,058	$ 6,891,634,951	$ 8,154,177,009
7. Total gain (loss) for the year (Item 5 - Item 6)	$ (143,964,159)	$ (614,937,840)	$ (758,901,999)
B. Source of gains and losses			
8. Asset gain (loss) for the year (Table 9b)	$ (18,293,310)	$ (81,865,116)	$ (100,158,426)
9. Gain (loss) due to change in actuarial assumptions	(65,300,672)	(456,191,193)	(521,491,865)
10. Gain (loss) due to change in actuarial method	-	(189,419,588)	(189,419,588)
11. Other liability gain (loss)	(60,370,177)	112,538,057	52,167,880
12. Change in benefit provisions	-	-	-
13. Total gain (loss) for the year	$ (143,964,159)	$ (614,937,840)	$ (758,901,999)

Investment Experience Gain or Loss

Item (1)	June 30, 2011 (2)	June 30, 2010 (3)
1. Actuarial assets, beginning of year	$ 11,345,618,006	$ 11,400,116,874
2. Total contributions during year	$ 765,855,884	$ 907,659,785
3. Benefits and refunds paid	$ (968,120,941)	$ (914,148,929)
4. Assumed net investment income at 8%		
a. Beginning of year assets	$ 907,649,440	$ 912,009,350
b. Contributions	30,634,235	36,306,391
c. Benefits and refunds paid	(38,724,838)	(36,565,957)
d. Total	$ 899,558,837	$ 911,749,784
5. Expected actuarial assets, end of year (Sum of items 1 through 4)	$ 12,042,911,786	$ 12,305,377,514
6. Actual actuarial assets, end of year	$ 11,942,753,360	$ 11,345,618,006
7. Asset gain (loss) for year (Item 6 - Item 5)	$ (100,158,426)	$ (959,759,508)
8. Asset gain (loss) as a percent of actuarial value of assets, end of year (Item 7 / Item 6)	(0.84%)	(8.46%)

Projection Results Based on June 30, 2011 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)
2011	15.52%	$ 3,955.5	$ 614	$ 20,097	$ 11,943	$ 8,154	59.4%
2012	16.11%	4,093.4	660	20,999	12,645	8,354	60.2%
2013	16.67%	4,210.3	702	21,931	13,386	8,545	61.0%
2014	17.23%	4,338.0	747	22,867	14,163	8,704	61.9%
2015	17.79%	4,473.8	796	23,804	14,977	8,827	62.9%
2016	17.90%	4,616.9	826	24,739	15,833	8,906	64.0%
2017	17.90%	4,767.5	853	25,670	16,712	8,958	65.1%
2018	17.90%	4,926.6	882	26,596	17,612	8,985	66.2%
2019	17.90%	5,094.7	912	27,519	18,537	8,982	67.4%
2020	18.29%	5,160.9	944	28,437	19,491	8,946	68.5%
2021	18.28%	5,346.9	977	29,352	20,478	8,874	69.8%
2022	18.26%	5,543.2	1,012	30,262	21,503	8,759	71.1%
2023	18.25%	5,749.2	1,049	31,168	22,570	8,598	72.4%
2024	18.24%	5,964.6	1,088	32,069	23,684	8,385	73.9%
2025	18.23%	6,190.4	1,128	32,966	24,852	8,114	75.4%
2026	18.21%	6,426.1	1,171	33,856	26,078	7,778	77.0%
2027	18.20%	6,672.8	1,215	34,742	27,371	7,371	78.8%
2028	18.19%	6,931.0	1,261	35,625	28,741	6,885	80.7%
2029	18.19%	7,200.7	1,310	36,507	30,196	6,311	82.7%
2030	18.18%	7,482.6	1,360	37,389	31,748	5,641	84.9%
2031	18.17%	7,776.4	1,413	38,274	33,409	4,864	87.3%
2032	18.17%	8,081.6	1,468	39,162	35,192	3,970	89.9%
2033	18.16%	8,401.0	1,526	40,057	37,109	2,947	92.6%
2034	18.16%	8,734.0	1,586	40,961	39,178	1,783	95.6%
2035	18.15%	9,082.0	1,648	41,880	41,415	465	98.9%
2036	18.15%	9,445.1	1,714	42,816	43,840	(1,024)	102.4%
2037	18.14%	9,823.4	1,782	43,776	46,473	(2,698)	106.2%
2038	18.14%	10,217.6	1,854	44,764	49,338	(4,575)	110.2%
2039	18.14%	10,628.3	1,928	45,785	52,458	(6,673)	114.6%
2040	18.14%	11,056.0	2,006	46,847	55,860	(9,013)	119.2%

Employer Covered Payroll

	Police and Firefighters		All Other Employees		All Employees	
	March 31, 2011	March 31, 2010	March 31, 2011	March 31, 2010	March 31, 2011	March 31, 2010
	(1)	(2)	(3)	(4)	(5)	(6)
State of Hawaii	$ 16,147,933	$ 14,671,499	$ 2,746,578,725	$ 2,759,250,560	$ 2,762,726,658	$ 2,773,922,059
City & County of Honolulu	257,475,594	243,678,319	310,387,316	307,045,075	567,862,910	550,723,394
Board of Water Supply	-	-	34,776,750	35,220,711	34,776,750	35,220,711
County of Hawaii	62,569,047	58,409,147	85,148,233	85,705,123	147,717,280	144,114,270
County of Maui	53,977,022	51,109,439	92,475,132	91,221,494	146,452,154	142,330,933
County of Kauai	22,642,917	20,665,135	49,204,758	46,616,203	71,847,675	67,281,338
Total All Employers	$ 412,812,513	$ 388,533,539	$ 3,318,570,914	$ 3,325,059,166	$ 3,731,383,427	$ 3,713,592,705

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

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
(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%

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%

Note : Dollar amounts in thousands

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

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, 2011
Actuarial cost method	Entry Age Normal
Amortization method	Level percent, open
Remaining amortization period as of June 30, 2011*	30 years
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return (set by statute)**	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, 2011	June 30, 2010	June 30, 2011	June 30, 2010	June 30, 2011	June 30, 2010
	(1)	(2)	(3)	(4)	(5)	(6)
1. Active members						
a. Number	4,965	4,940	60,345	60,950	65,310	65,890
b. Total payroll	$ 412,812,512	$ 388,533,540	$ 3,318,570,914	$ 3,325,059,166	$ 3,731,383,426	$ 3,713,592,706
c. Average salary	$ 83,145	78,651	$ 54,993	$ 54,554	$ 57,133	$ 56,360
d. Average age	41.6	41.3	47.8	47.6	47.4	47.1
e. Average service	13.8	13.7	13.4	13.2	13.4	13.2
2. Inactive members						
a. Number	226	241	6,423	6,654	6,649	6,895
b. Total annual deferred benefits	$ 3,444,867	$ 3,786,481	$ 48,140,410	50,376,724	$ 51,585,277	$ 54,163,205
c. Average annual deferred benefit	$ 15,243	$ 15,712	$ 7,495	7,571	$ 7,758	$ 7,855
3. Service retirees						
a. Number	2,994	2,880	32,365	31,386	35,359	34,266
b. Total annual benefits	$ 129,073,292	$ 118,115,680	$ 744,391,967	694,141,608	$ 873,465,259	$ 812,257,288
c. Average annual benefit	$ 43,111	$ 41,012	$ 23,000	22,116	$ 24,703	$ 23,704
4. Disabled retirees						
a. Number	159	163	1,353	1,334	1,512	1,497
b. Total annual benefits	$ 2,792,285	$ 2,734,501	$ 14,563,692	13,735,530	$ 17,355,977	$ 16,470,031
c. Average annual benefit	$ 17,562	$ 16,776	$ 10,764	10,296	$ 11,479	$ 11,002
5. Beneficiaries						
a. Number	203	198	2,615	2,480	2,818	2,678
b. Total annual benefits	$ 5,746,569	$ 5,424,211	$ 34,427,112	$ 31,569,183	$ 40,173,681	$ 36,993,394
c. Average annual benefit	$ 28,308	$ 27,395	$ 13,165	12,730	$ 14,256	$ 13,814

Historical Summary of Active Member Data

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

History of Cash Flow

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

Amounts in $ millions

[1] Excludes investment expenses
[2] Column (9) = Column (4) + Column (8)

Solvency Test

		June 30, 2011 (1)	June 30, 2010 (2)
1.	Actuarial accrued liability (AAL)		
	a. Active member contributions	$ 1,364,179,427	$ 1,265,007,786
	b. Retirees and beneficiaries	10,183,713,229	9,259,425,898
	c. Active and inactive members	8,549,037,712	7,959,234,907
	d. Total	$ 20,096,930,368	$ 18,483,668,591
2.	Actuarial value of assets	$ 11,942,753,360	$ 11,345,618,006
3.	Cumulative portion of AAL covered		
	a. Active member contributions	100%	100%
	b. Retirees and beneficiaries	100%	100%
	c. Active and inactive members	5%	10%

Highlights of Last Five Annual Actuarial Valuations

2007 through 2011

Item	Valuation Date: June 30				
	2007	2008	2009	2010	2011
Number of active members	65,251	66,589	67,912	65,890	65,310
Number of inactive members	5,554	5,847	6,016	6,895	6,649
Number of pensioners	33,117	33,893	34,429	35,763	36,871
Number of beneficiaries	2,207	2,367	2,570	2,678	2,818
Average monthly contributory plan pension amount	$ 1,869	$ 1,941	$ 2,019	$ 2,118	$ 2,221
Average monthly noncontributory plan pension amount	$ 1,359	$ 1,388	$ 1,421	$ 1,457	$ 1,509
Average monthly hybrid plan pension amount	$ 1,453	$ 1,603	$ 1,602	$ 1,857	$ 2,055
Average monthly beneficiary amount	$ 1,025	$ 1,062	$ 1,109	$ 1,151	$ 1,188
Total actuarial value of assets ($millions)	$ 10,590	$ 11,381	$ 11,400	$ 11,346	$ 11,943
Unfunded actuarial accrued liability ($millions)	$ 5,106.8	$ 5,168.1	$ 6,236.3	$ 7,138.1	$ 8,154.2
Funding Period (in years) [1]	25.5	22.6	28.2	41.3	25.0

Item (Dollar amounts in millions)	Fiscal Year				
	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Employer appropriations[2]	$ 454.5	$ 488.8	$ 578.6	$ 547.6	$ 534.9

[1] Beginning with the 2011 valuation, the funding period was determined using and 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)

	Noncontributory Plan	Contributory Plan	Hybrid Plan
Employee Contributions	No employee contributions	7.8% of salary	6.0% of salary
Normal Retirement			
Eligibility	Age 62 and 10 years credited service; or Age 55 and 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.)

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

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

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

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

A. Police officers, firefighters, investigators of the Department of the Prosecuting Attorney and the Attorney General, narcotic enforcement investigators, and public safety investigators contribute 12.2% of their monthly salary to the ERS instead of 7.8%. These members may retire at age 55 with 5 years of credited service or at any age with 25 years of credited service and receive a retirement benefit of 2 ½% of average final compensation (AFC) for each year of such service up to a maximum of 80% AFC, provided the last 5 years of credited service in any of these occupations.

B. Judges, elected officials, and legislative officers may retire at age 55 with at least 5 years of credited service, or at any age with at least 10 years of credited service and receive a pension of 3 ½% of AFC for each year of such service plus an annuity from their contributions allocable to the period of such service. This benefit cannot exceed 75% of the AFC. Judges hired after June 30, 1999 require 25 years of credited service in order to retire before age 55.

C. Sewer workers in specified classifications, water safety officers, and emergency medical technicians (EMTs) may retire at any age if they are credited with 25 years of such service with the last 5 or more years in these occupations. (The 25-year feature is phased in through 7/1/2008 for EMTs.)

D. Sewer workers in specified classifications, water safety officers, and emergency medical technicians (EMTs) that transfer to the Hybrid Plan contribute 9.75% of their monthly salary to the ERS. These members may retire at age 62 with 5 years of credited service or at any age if they are credited with 25 years of such service with the last 5 or more years in these occupations.

Post Retirement Benefit

Each retiree's original retirement allowance is increased by 2 ½% on each July 1 beginning the calendar year after retirement. This cumulative benefit is not compounded and increased each year by another 2 ½% of the original retirement allowance without a ceiling (i.e., 2 1.2% of the original retirement allowance the first year, 5% the second year, 7 ½% the third year, etc.).

Retirement Options

<u>Contributory and Hybrid Plans</u>

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:

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

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

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

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

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

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

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

Noncontributory Plan

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

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

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

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

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

Summary of Plan Changes

Act 65, effective July 1 1999

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

Act 100, effective June 30, 1999

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

Act 284, effective June 30, 2001

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

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

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

Act 199, effective June 30, 2003

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

Act 177, effective July 1, 2004

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

<u>Act 179, effective July 1, 2004</u>

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.

<u>Act 181, effective July 1, 2004</u>

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.

<u>Act 183, effective July 1, 2004</u>

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

<u>Act 56, effective December 1, 2004</u>

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.

<u>Act 256, effective July 5, 2007</u>

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%.

<u>Act 163, effective June 23, 2011</u>

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 salaries	Highest 5 annual 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.

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

	General Employees		Teachers	
Years of Service	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)**.

<u>Police and Fire</u>

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.

	General Employees		Teachers		Police and Fire	
Type	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:

	General Employees		Teachers		Police and Fire
Type	Male	Female	Male	Female	Male & Female
Ordinary	135%	85%	50%	50%	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

	Expected Terminations per 100 Lives (Male Members)					
	Years of Service					
Group	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

	Expected Terminations per 100 Lives (Female Members)					
	Years of Service					
Group	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	11.0	7.5	4.0	4.0	4.0	4.0

After first 6 years of service

	Expected Terminations per 100 Lives				
	Years of Service				
Age	General Employees Males	General Employees Females	Teachers Males	Teachers Females	Police & Fire
(1)	(2)	(3)	(4)	(5)	(6)
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

	Expected Retirements per 100 Lives				
	General Employees		Teachers		Police and Fire
Age	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

<u>Noncontributory Plan</u>

Expected Retirements per 100 Lives

	General Employees				Teachers			
	Unreduced Retirement		Reduced Retirement		Unreduced Retirement		Reduced Retirement	
Age	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

C. <u>Other Assumptions</u>

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 this valuation to the assumption recommended by GRS. ERS's Board will adopt the assumption for future valuations based on the Actuary's recommendations.

SECTION M

STATISTICAL TABLES

STATISTICAL TABLES

Distribution of Active Members by Age and by Years of Service - All Employees
As of 06/30/2011

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	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.	Count & Avg. Comp.
Under 25	82	134	61	48	18	0	0	0	0	0	0	0	343
	$38,287	$41,281	$39,187	$38,576	$42,015	$0	$0	$0	$0	$0	$0	$0	$39,853
25-29	194	552	660	649	475	475	3	0	0	0	0	0	3,008
	$42,839	$44,031	$45,110	$45,576	$48,126	$49,352	$36,095	$0	$0	$0	$0	$0	$46,003
30-34	922	386	604	738	717	2,582	357	1	0	0	0	0	6,307
	$44,123	$47,549	$48,582	$46,734	$49,916	$52,397	$54,499	$68,822	$0	$0	$0	$0	$49,703
35-39	1,384	503	581	600	569	2,475	2,045	326	3	0	0	0	8,486
	$45,363	$48,531	$49,575	$47,967	$50,886	$54,086	$58,998	$63,542	$54,060	$0	$0	$0	$52,925
40-44	60	186	384	496	483	2,053	2,007	2,144	580	1	0	0	8,394
	$42,439	$46,756	$49,134	$48,422	$51,313	$52,384	$59,373	$64,850	$66,042	$57,720	$0	$0	$57,543
45-49	47	187	384	477	455	1,712	1,406	1,747	2,457	356	5	0	9,233
	$40,837	$50,660	$46,202	$46,774	$48,872	$50,412	$54,322	$62,993	$68,494	$71,620	$60,625	$0	$58,540
50-54	40	144	315	342	405	1,528	1,364	1,475	2,194	1,676	398	10	9,891
	$49,545	$48,127	$45,482	$47,226	$47,734	$50,075	$51,851	$59,929	$65,202	$71,045	$68,647	$64,649	$59,089
55-59	57	138	261	320	294	1,349	1,228	1,401	1,803	1,442	1,221	323	9,837
	$49,239	$47,578	$51,822	$46,187	$49,169	$50,425	$51,101	$58,381	$62,306	$72,581	$73,634	$71,509	$60,456
60-64	33	88	137	214	181	930	888	933	1,256	753	558	788	6,759
	$45,890	$50,670	$51,051	$52,932	$50,779	$52,587	$53,145	$57,773	$62,760	$68,877	$77,852	$78,767	$62,093
65 & Over	19	29	50	61	95	516	480	382	435	290	180	515	3,052
	$48,254	$58,852	$55,771	$52,253	$49,076	$50,663	$51,360	$58,659	$62,894	$69,206	$79,184	$89,777	$63,690
Total	2,838	2,347	3,437	3,945	3,692	13,620	9,778	8,409	8,728	4,518	2,362	1,636	65,310
	$44,609	$47,053	$47,877	$47,269	$49,573	$51,838	$55,336	$61,407	$65,116	$71,098	$74,186	$80,713	$57,134

Distribution of Active Members by Age and by Years of Service
Noncontributory Members, All
As of 06/30/2011

	Years of Credited Service												
Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total 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	1	1	0	2	213	1	0	0	0	0	0	218
	$0	$35,329	$37,416	$0	$30,000	$43,668	$33,276	$0	$0	$0	$0	$0	$43,428
30-34	3	0	0	0	1	1,087	140	0	0	0	0	0	1,231
	$58,948	$0	$0	$0	$36,450	$48,702	$48,886	$0	$0	$0	$0	$0	$48,738
35-39	1	1	1	1	1	1,090	719	108	2	0	0	0	1,924
	$34,800	$46,200	$35,000	$43,147	$45,497	$50,721	$52,433	$55,563	$61,934	$0	$0	$0	$51,619
40-44	0	0	0	2	5	889	796	755	201	0	0	0	2,648
	$0	$0	$0	$42,564	$45,787	$48,430	$53,614	$57,919	$54,840	$0	$0	$0	$53,171
45-49	0	0	0	1	3	829	675	726	832	107	1	0	3,174
	$0	$0	$0	$77,069	$40,474	$47,266	$50,734	$56,833	$59,836	$58,797	$67,219	$0	$53,885
50-54	0	1	0	0	0	674	678	698	855	456	97	5	3,464
	$0	$58,959	$0	$0	$0	$46,514	$47,887	$55,779	$58,684	$64,201	$63,568	$49,585	$54,467
55-59	0	0	0	0	2	545	550	694	759	434	329	110	3,423
	$0	$0	$0	$0	$35,836	$45,160	$48,001	$55,011	$57,086	$67,550	$67,373	$65,624	$55,884
60-64	0	0	2	1	0	361	416	458	587	283	156	282	2,546
	$0	$0	$58,299	$57,205	$0	$46,203	$49,039	$54,797	$60,054	$65,946	$75,082	$76,887	$58,782
65 & Over	0	0	0	0	0	229	257	258	285	152	74	229	1,484
	$0	$0	$0	$0	$0	$43,912	$44,110	$53,737	$60,044	$63,272	$79,788	$86,916	$59,160
Total	4	3	4	5	14	5,917	4,232	3,697	3,521	1,432	657	626	20,112
	$52,911	$46,829	$47,253	$52,510	$40,284	$47,737	$50,119	$56,008	$58,733	$65,059	$70,040	$78,358	$54,595

Distribution of Active Members by Age and by Years of Service
Noncontributory Members, General Employees
As of 06/30/2011

Years of Credited Service

Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total 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	0	2	153	1	0	0	0	0	0	157
	$0	$0	$37,416	$0	$30,000	$40,669	$33,276	$0	$0	$0	$0	$0	$40,465
30-34	2	0	0	0	1	608	95	0	0	0	0	0	706
	$73,491	$0	$0	$0	$36,450	$46,330	$46,099	$0	$0	$0	$0	$0	$46,362
35-39	1	1	1	0	0	728	402	74	2	0	0	0	1,209
	$34,800	$46,200	$35,000	$0	$0	$48,913	$49,345	$52,012	$61,934	$0	$0	$0	$49,243
40-44	0	0	0	2	4	685	553	432	173	0	0	0	1,849
	$0	$0	$0	$42,564	$39,539	$45,084	$51,288	$55,088	$53,452	$0	$0	$0	$50,045
45-49	0	0	0	0	3	666	543	543	573	94	1	0	2,423
	$0	$0	$0	$0	$40,474	$44,320	$47,851	$53,838	$56,911	$57,348	$67,219	$0	$50,732
50-54	0	0	0	0	0	547	569	557	690	341	93	5	2,802
	$0	$0	$0	$0	$0	$44,033	$44,759	$52,205	$55,899	$62,244	$62,179	$49,585	$51,555
55-59	0	0	0	0	2	449	448	547	614	345	261	96	2,762
	$0	$0	$0	$0	$35,836	$42,924	$44,267	$50,924	$53,244	$63,940	$64,340	$63,528	$52,380
60-64	0	0	1	0	0	276	346	342	418	206	113	191	1,893
	$0	$0	$26,597	$0	$0	$42,582	$46,492	$49,728	$53,914	$60,325	$70,543	$72,037	$53,653
65 & Over	0	0	0	0	0	191	221	213	236	104	43	115	1,123
	$0	$0	$0	$0	$0	$40,838	$40,749	$49,701	$56,943	$54,426	$69,021	$76,399	$51,865
Total	3	1	3	2	12	4,303	3,178	2,708	2,706	1,090	511	407	14,924
	$60,594	$46,200	$33,004	$42,564	$37,308	$44,925	$46,881	$52,219	$55,143	$61,250	$65,718	$70,986	$51,127

Distribution of Active Members by Age and by Years of Service
Noncontributory Members, Teachers
As of 06/30/2011

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	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.	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	1	0	0	0	60	0	0	0	0	0	0	61
	$0	$35,329	$0	$0	$0	$51,318	$0	$0	$0	$0	$0	$0	$51,056
30-34	1	0	0	0	0	479	45	0	0	0	0	0	525
	$29,863	$0	$0	$0	$0	$51,713	$54,769	$0	$0	$0	$0	$0	$51,933
35-39	0	0	0	1	1	362	317	34	0	0	0	0	715
	$0	$0	$0	$43,147	$45,497	$54,357	$56,348	$63,291	$0	$0	$0	$0	$55,637
40-44	0	0	0	0	1	204	243	323	28	0	0	0	799
	$0	$0	$0	$0	$70,779	$59,665	$58,908	$61,704	$63,417	$0	$0	$0	$60,405
45-49	0	0	0	1	0	163	132	183	259	13	0	0	751
	$0	$0	$0	$77,069	$0	$59,304	$62,591	$65,721	$66,309	$69,275	$0	$0	$64,057
50-54	0	1	0	0	0	127	109	141	165	115	4	0	662
	$0	$58,959	$0	$0	$0	$57,198	$64,218	$69,895	$70,331	$70,004	$95,850	$0	$66,793
55-59	0	0	0	0	0	96	102	147	145	89	68	14	661
	$0	$0	$0	$0	$0	$55,616	$64,399	$70,219	$73,355	$81,546	$79,013	$79,998	$70,525
60-64	0	0	1	1	0	85	70	116	169	77	43	91	653
	$0	$0	$90,000	$57,205	$0	$57,960	$61,624	$69,740	$75,239	$80,986	$87,008	$87,067	$73,650
65 & Over	0	0	0	0	0	38	36	45	49	48	31	114	361
	$0	$0	$0	$0	$0	$59,360	$64,741	$72,840	$74,977	$82,439	$94,722	$97,525	$81,854
Total	1	2	1	3	2	1,614	1,054	989	815	342	146	219	5,188
	$29,863	$47,144	$90,000	$59,140	$58,138	$55,236	$59,883	$66,385	$70,650	$77,198	$85,165	$92,059	$64,573

Distribution of Active Members by Age and by Years of Service
Contributory Members, All
As of 06/30/2011

Years of Credited Service

Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 25	3	13	9	6	3	0	0	0	0	0	0	0	34
	$50,439	$57,257	$68,101	$74,777	$70,370	$0	$0	$0	$0	$0	$0	$0	$63,774
25-29	9	47	65	70	61	71	0	0	0	0	0	0	323
	$53,187	$63,091	$65,638	$67,236	$67,234	$74,783	$0	$0	$0	$0	$0	$0	$67,578
30-34	60	41	56	61	95	327	70	0	0	0	0	0	710
	$52,623	$62,178	$68,541	$65,917	$68,280	$69,993	$72,931	$0	$0	$0	$0	$0	$67,669
35-39	80	48	40	32	53	283	419	73	0	0	0	0	1,028
	$53,746	$57,216	$63,523	$66,189	$68,652	$72,485	$77,469	$88,318	$0	$0	$0	$0	$72,727
40-44	0	9	14	16	25	187	375	365	145	0	0	0	1,136
	$0	$65,601	$61,410	$68,366	$66,630	$70,297	$77,795	$89,346	$97,586	$0	$0	$0	$82,121
45-49	2	3	4	9	7	55	109	248	409	114	2	0	962
	$60,029	$69,490	$56,538	$69,657	$70,999	$73,970	$77,744	$89,271	$100,025	$96,063	$66,103	$0	$91,843
50-54	1	0	3	3	1	22	45	114	230	430	147	3	999
	$56,781	$0	$57,839	$86,034	$59,020	$75,042	$76,792	$87,925	$99,279	$83,634	$77,606	$90,640	$86,240
55-59	1	0	3	2	3	13	24	38	74	310	322	73	863
	$128,296	$0	$77,507	$99,401	$65,424	$96,888	$86,364	$98,459	$104,682	$82,467	$77,305	$71,949	$82,602
60-64	2	0	0	0	3	5	15	9	22	96	143	168	463
	$57,214	$0	$0	$0	$50,400	$101,497	$104,938	$89,829	$95,222	$74,453	$75,275	$78,278	$78,430
65 & Over	1	0	1	0	2	10	7	4	2	41	55	111	234
	$37,571	$0	$48,708	$0	$80,750	$119,896	$83,151	$88,520	$188,310	$66,783	$64,822	$82,071	$77,661
Total	159	161	195	199	253	973	1,064	851	882	991	669	355	6,752
	$53,737	$60,895	$65,637	$67,698	$67,859	$72,498	$77,910	$89,454	$99,901	$83,112	$75,878	$78,267	$80,032

Distribution of Active Members by Age and by Years of Service
Contributory Members, General Employees
As of 06/30/2011

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	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.	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	0	0	0	0	0	0	0	0	0	0	0	1
	$47,928	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$47,928
30-34	4	0	1	1	1	7	1	0	0	0	0	0	15
	$58,220	$0	$48,708	$34,995	$58,322	$49,316	$52,631	$0	$0	$0	$0	$0	$51,516
35-39	5	0	2	0	1	7	9	0	0	0	0	0	24
	$56,523	$0	$51,527	$0	$47,913	$54,014	$60,045	$0	$0	$0	$0	$0	$56,337
40-44	0	0	1	0	1	18	10	11	2	0	0	0	43
	$0	$0	$48,708	$0	$48,708	$65,533	$69,140	$74,301	$63,451	$0	$0	$0	$67,735
45-49	1	0	2	1	1	5	5	15	13	33	2	0	78
	$66,500	$0	$47,490	$63,148	$48,708	$67,698	$52,878	$84,390	$85,877	$63,537	$66,103	$0	$70,351
50-54	1	0	1	1	1	5	9	12	18	172	89	1	310
	$56,781	$0	$56,781	$147,288	$59,020	$76,581	$73,415	$82,464	$93,723	$60,213	$54,903	$63,825	$62,409
55-59	1	0	3	1	1	9	9	8	13	178	175	52	450
	$128,296	$0	$77,507	$128,296	$66,500	$104,154	$103,514	$129,188	$119,317	$69,803	$64,901	$62,904	$71,251
60-64	2	0	0	0	3	4	12	6	8	60	95	91	281
	$57,214	$0	$0	$0	$50,400	$104,198	$104,012	$84,788	$88,540	$62,318	$68,940	$68,215	$69,906
65 & Over	1	0	1	0	2	10	6	3	1	27	45	63	159
	$37,571	$0	$48,708	$0	$80,750	$119,896	$84,616	$97,218	$143,292	$58,064	$59,793	$73,677	$71,003
Total	16	0	11	4	11	65	61	55	55	470	406	207	1,361
	$60,437	$0	$57,587	$93,432	$58,352	$79,653	$80,279	$89,211	$96,965	$64,223	$63,094	$68,522	$68,270

Distribution of Active Members by Age and by Years of Service
Contributory Members, Teachers
As of 06/30/2011

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	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.	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	0	0	0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
30-34	0	0	0	0	0	0	0	0	0	0	0	0	0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
35-39	0	0	0	0	0	1	1	0	0	0	0	0	2
	$0	$0	$0	$0	$0	$80,199	$54,794	$0	$0	$0	$0	$0	$67,496
40-44	0	0	0	0	0	1	1	1	0	0	0	0	3
	$0	$0	$0	$0	$0	$46,865	$78,340	$54,384	$0	$0	$0	$0	$59,863
45-49	0	0	0	0	0	0	0	1	1	0	0	0	2
	$0	$0	$0	$0	$0	$0	$0	$59,970	$54,183	$0	$0	$0	$57,076
50-54	0	0	0	0	0	0	1	4	2	67	8	0	82
	$0	$0	$0	$0	$0	$0	$85,848	$85,032	$123,505	$73,633	$83,162	$0	$76,484
55-59	0	0	0	0	0	0	0	2	0	44	93	17	156
	$0	$0	$0	$0	$0	$0	$0	$116,363	$0	$75,757	$79,974	$87,968	$80,122
60-64	0	0	0	0	0	0	0	0	0	16	34	67	117
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$74,465	$77,476	$86,161	$82,038
65 & Over	0	0	0	0	0	0	0	0	1	9	10	44	64
	$0	$0	$0	$0	$0	$0	$0	$0	$233,328	$80,854	$87,452	$91,182	$91,368
Total	0	0	0	0	0	2	3	8	4	136	145	128	426
	$0	$0	$0	$0	$0	$63,532	$72,994	$85,901	$133,630	$74,896	$80,080	$88,127	$81,327

Distribution of Active Members by Age and by Years of Service
Contributory Members, Police and Firefighters
As of 06/30/2011

	Years of Credited Service												
Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 25	3	13	9	6	3	0	0	0	0	0	0	0	34
	$50,439	$57,257	$68,101	$74,777	$70,370	$0	$0	$0	$0	$0	$0	$0	$63,774
25-29	8	47	65	70	61	71	0	0	0	0	0	0	322
	$53,844	$63,091	$65,638	$67,236	$67,234	$74,783	$0	$0	$0	$0	$0	$0	$67,639
30-34	56	41	55	60	94	320	69	0	0	0	0	0	695
	$52,223	$62,178	$68,902	$66,432	$68,386	$70,445	$73,225	$0	$0	$0	$0	$0	$68,018
35-39	75	48	38	32	52	275	409	73	0	0	0	0	1,002
	$53,561	$57,216	$64,154	$66,189	$69,051	$72,927	$77,908	$88,318	$0	$0	$0	$0	$73,130
40-44	0	9	13	16	24	168	364	353	143	0	0	0	1,090
	$0	$65,601	$62,387	$68,366	$67,377	$70,947	$78,031	$89,914	$98,063	$0	$0	$0	$82,750
45-49	1	3	2	8	6	50	104	232	395	81	0	0	882
	$53,558	$69,490	$65,586	$70,471	$74,714	$74,597	$78,939	$89,713	$100,607	$109,314	$0	$0	$93,823
50-54	0	0	2	2	0	17	35	98	210	191	50	2	607
	$0	$0	$58,368	$55,407	$0	$74,589	$77,401	$88,712	$99,525	$108,233	$117,128	$104,047	$99,729
55-59	0	0	0	1	2	4	15	28	61	88	54	4	257
	$0	$0	$0	$70,505	$64,886	$80,541	$76,074	$88,400	$101,563	$111,437	$112,908	$121,468	$103,982
60-64	0	0	0	0	0	1	3	3	14	20	14	10	65
	$0	$0	$0	$0	$0	$90,696	$108,640	$99,911	$99,040	$110,851	$112,918	$117,035	$108,787
65 & Over	0	0	0	0	0	0	1	1	0	5	0	4	11
	$0	$0	$0	$0	$0	$0	$74,364	$62,424	$0	$88,532	$0	$114,060	$94,154
Total	143	161	184	195	242	906	1,000	788	823	385	118	20	4,965
	$52,987	$60,895	$66,118	$67,170	$68,291	$72,005	$77,780	$89,507	$99,933	$109,073	$114,697	$116,028	$83,145

Distribution of Active Members by Age and by Years of Service
Hybid Plan Members, All
As of 06/30/2011

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	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.	Count & Avg. Comp.
Under 25	79	121	52	42	15	0	0	0	0	0	0	0	309
	$37,826	$39,564	$34,183	$33,404	$36,344	$0	$0	$0	$0	$0	$0	$0	$37,221
25-29	185	504	594	579	412	191	2	0	0	0	0	0	2,467
	$42,336	$42,271	$42,876	$42,957	$45,385	$46,237	$37,505	$0	$0	$0	$0	$0	$43,406
30-34	859	345	548	677	621	1,168	147	1	0	0	0	0	4,366
	$43,478	$45,810	$46,543	$45,006	$47,129	$50,911	$51,068	$68,822	$0	$0	$0	$0	$47,053
35-39	1,303	454	540	567	515	1,102	907	145	1	0	0	0	5,534
	$44,857	$47,618	$48,568	$46,947	$49,068	$52,689	$55,670	$57,011	$38,313	$0	$0	$0	$49,701
40-44	60	177	370	478	453	977	836	1,024	234	1	0	0	4,610
	$42,439	$45,798	$48,670	$47,779	$50,529	$52,554	$56,593	$61,228	$56,117	$57,720	$0	$0	$53,998
45-49	45	184	380	467	445	828	622	773	1,216	135	2	0	5,097
	$39,984	$50,353	$46,093	$46,268	$48,580	$51,997	$54,111	$60,348	$63,811	$61,143	$51,849	$0	$55,153
50-54	39	143	312	339	404	832	641	663	1,109	790	154	2	5,428
	$49,360	$48,052	$45,364	$46,882	$47,706	$52,299	$54,292	$59,484	$63,159	$68,143	$63,295	$63,323	$57,041
55-59	56	138	258	318	289	791	654	669	970	698	570	140	5,551
	$47,827	$47,578	$51,523	$45,852	$49,093	$53,289	$52,415	$59,600	$63,158	$71,318	$75,174	$75,903	$59,832
60-64	31	88	135	213	178	564	457	466	647	374	259	338	3,750
	$45,159	$50,670	$50,944	$52,912	$50,785	$56,240	$55,182	$60,079	$64,111	$69,663	$80,944	$80,578	$62,324
65 & Over	18	29	49	61	93	277	216	120	148	97	51	175	1,334
	$48,847	$58,852	$55,915	$52,253	$48,395	$53,745	$58,955	$68,245	$66,688	$79,529	$93,797	$98,409	$66,278
Total	2,675	2,183	3,238	3,741	3,425	6,730	4,482	3,861	4,325	2,095	1,036	655	38,446
	$44,054	$46,033	$46,808	$46,175	$48,260	$52,456	$54,903	$60,393	$63,219	$69,543	$75,722	$84,290	$54,440

Distribution of Active Members by Age and by Years of Service
Hybrid Plan Members, General Employees
As of 06/30/2011

	Years of Credited Service												
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Attained Age	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.	Count & Avg. Comp.
Under 25	33	48	52	42	15	0	0	0	0	0	0	0	190
	$31,234	$35,171	$34,183	$33,404	$36,344	$0	$0	$0	$0	$0	$0	$0	$33,919
25-29	102	266	306	360	242	124	2	0	0	0	0	0	1,402
	$42,406	$39,848	$40,635	$41,301	$42,989	$44,411	$37,505	$0	$0	$0	$0	$0	$41,521
30-34	624	228	382	471	400	611	85	1	0	0	0	0	2,802
	$43,305	$45,592	$45,681	$43,579	$45,707	$49,246	$46,162	$68,822	$0	$0	$0	$0	$45,595
35-39	749	332	397	437	384	717	486	76	1	0	0	0	3,579
	$44,961	$47,188	$46,883	$44,647	$47,248	$51,154	$53,313	$52,553	$38,313	$0	$0	$0	$48,122
40-44	43	135	285	381	341	733	562	521	178	1	0	0	3,180
	$41,141	$44,035	$46,256	$45,761	$48,020	$49,997	$54,121	$58,661	$53,622	$57,720	$0	$0	$50,923
45-49	35	144	308	400	363	643	475	541	784	110	2	0	3,805
	$39,801	$49,190	$44,645	$44,134	$46,261	$49,375	$51,251	$57,380	$60,828	$58,974	$51,849	$0	$52,060
50-54	33	106	253	290	346	660	492	518	810	549	125	2	4,184
	$47,707	$45,680	$42,436	$44,330	$46,217	$48,505	$50,947	$56,513	$60,626	$65,429	$60,226	$63,323	$53,785
55-59	44	105	211	277	234	644	509	492	701	500	410	114	4,241
	$47,374	$46,670	$49,538	$43,233	$45,917	$51,354	$48,703	$55,687	$58,421	$68,313	$72,155	$73,435	$56,232
60-64	21	56	117	180	145	458	335	310	417	243	185	217	2,684
	$44,264	$48,059	$51,861	$50,234	$49,611	$55,600	$52,364	$53,971	$59,610	$64,527	$75,759	$74,723	$58,283
65 & Over	13	26	38	48	76	223	164	79	104	60	28	87	946
	$45,254	$61,046	$52,431	$48,654	$47,678	$48,449	$55,726	$63,991	$60,627	$72,619	$72,246	$89,189	$58,742
Total	1,697	1,446	2,349	2,886	2,546	4,813	3,110	2,538	2,995	1,463	750	420	27,013
	$43,838	$45,227	$45,320	$44,215	$46,385	$50,285	$51,835	$56,787	$59,597	$66,069	$71,005	$77,315	$51,834

Distribution of Active Members by Age and by Years of Service
Hybrid Plan Members, Teachers
As of 06/30/2011

Years of Credited Service

Attained Age	0 Count & Avg. Comp.	1 Count & Avg. Comp.	2 Count & Avg. Comp.	3 Count & Avg. Comp.	4 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	Total Count & Avg. Comp.
Under 25	46	73	0	0	0	0	0	0	0	0	0	0	119
	$42,554	$42,453	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$42,492
25-29	83	238	288	219	170	67	0	0	0	0	0	0	1,065
	$42,249	$44,979	$45,258	$45,680	$48,796	$49,617	$0	$0	$0	$0	$0	$0	$45,887
30-34	235	117	166	206	221	557	62	0	0	0	0	0	1,564
	$43,938	$46,235	$48,525	$48,267	$49,701	$52,737	$57,794	$0	$0	$0	$0	$0	$49,664
35-39	554	122	143	130	131	385	421	69	0	0	0	0	1,955
	$44,716	$48,788	$53,248	$54,677	$54,400	$55,549	$58,390	$61,921	$0	$0	$0	$0	$52,591
40-44	17	42	85	97	112	244	274	503	56	0	0	0	1,430
	$45,723	$51,466	$56,763	$55,708	$58,168	$60,236	$61,662	$63,887	$64,047	$0	$0	$0	$60,837
45-49	10	40	72	67	82	185	147	232	432	25	0	0	1,292
	$40,627	$54,537	$52,289	$59,011	$58,849	$61,112	$63,353	$67,268	$69,226	$70,687	$0	$0	$64,264
50-54	6	37	59	49	58	172	149	145	299	241	29	0	1,244
	$58,453	$54,847	$57,919	$61,989	$56,583	$66,856	$65,337	$70,098	$70,021	$74,325	$76,523	$0	$67,993
55-59	12	33	47	41	55	147	145	177	269	198	160	26	1,310
	$49,487	$50,466	$60,435	$63,550	$62,604	$61,767	$65,445	$70,478	$75,505	$78,905	$82,908	$86,724	$71,486
60-64	10	32	18	33	33	106	122	156	230	131	74	121	1,066
	$47,038	$55,240	$44,982	$67,518	$55,945	$59,001	$62,920	$72,216	$72,271	$79,190	$93,907	$91,078	$72,499
65 & Over	5	3	11	13	17	54	52	41	44	37	23	88	388
	$58,188	$39,841	$67,952	$65,541	$51,597	$75,616	$69,141	$76,442	$81,014	$90,736	$120,032	$107,524	$84,651
Total	978	737	889	855	879	1,917	1,372	1,323	1,330	632	286	235	11,433
	$44,429	$47,613	$50,741	$52,790	$53,691	$57,906	$61,859	$67,311	$71,373	$77,585	$88,092	$96,754	$60,597

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	23,021	$ 2,221	11,337	$ 1,509	2,513	$ 2,055
	Service		Service		Service	
Total	22,436	$ 2,250	10,539	$ 1,565	2,384	$ 2,103
General Employees - male	5,547	2,031	3,546	1,473	706	2,223
General Employees - female	7,468	1,497	3,879	1,151	1,006	1,755
Teachers - male	1,736	2,844	1,068	2,308	198	2,933
Teachers - female	4,691	2,645	2,046	2,122	474	2,316
Police and Firefighters	2,994	3,567	-	-	-	-
	Ordinary Disability		Ordinary Disability		Ordinary Disability	
Total	258	$ 828	657	$ 797	115	$ 1,166
General Employees - male	90	847	310	776	58	1,160
General Employees - female	94	626	263	698	38	1,052
Teachers - male	9	1,285	33	1,283	8	1,169
Teachers - female	32	1,071	51	1,121	11	1,585
Police and Firefighters	33	989	-	-	-	-
	Accidental Disability		Accidental Disability		Accidental Disability	
Total	327	$ 1,357	141	$ 595	14	$ 1,175
General Employees - male	122	1,297	84	629	10	1,140
General Employees - female	74	1,143	51	499	3	1,105
Teachers - male	1	1,077	2	730	-	-
Teachers - female	4	2,493	4	1,045	1	1,729
Police and Firefighters	126	1,507	-	-	-	-

Summary of Pensions in Force by Age and Type

General Employees

Age	Type of Pension: Total	Service	Ordinary Disability	Accidental Disability
Total	23,349	22,152	853	344
	Contributory			
Total	13,395	13,015	184	196
30-39	-	-	-	-
40-44	1	1	-	-
45-49	18	13	1	4
50-54	55	40	10	5
55-59	529	499	16	14
60-64	1,135	1,082	28	25
65-69	1,633	1,584	22	27
70-74	1,863	1,813	20	30
75-79	2,491	2,436	30	25
80-84	2,669	2,615	21	33
85-89	1,967	1,926	17	24
90-94	834	810	15	9
95-99	187	184	3	-
100 & over	13	12	1	-
	Noncontributory			
Total	8,133	7,425	573	135
30-39	2	-	2	-
40-44	5	-	2	3
45-49	24	-	23	1
50-54	68	-	51	17
55-59	412	270	116	26
60-64	1,502	1,310	167	25
65-69	2,731	2,557	146	28
70-74	1,866	1,793	52	21
75-79	961	947	10	4
80-84	442	431	4	7
85-89	101	98	-	3
90-94	19	19	-	-
95-99	-	-	-	-
100 & over	-	-	-	-
	Hybrid			
Total	1,821	1,712	96	13
30-39	-	-	-	-
40-44	1	-	1	-
45-49	10	-	9	1
50-54	13	2	9	2
55-59	305	270	29	6
60-64	822	785	35	2
65-69	531	517	12	2
70-74	107	106	1	-
75-79	24	24	-	-
80-84	7	7	-	-
85-89	1	1	-	-
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	10,369	10,213	144	12
	Contributory			
Total	6,473	6,427	41	5
30-39	-	-	-	-
40-44	-	-	-	-
45-49	-	-	-	-
50-54	2	2	-	-
55-59	139	136	3	-
60-64	717	709	8	-
65-69	1,192	1,183	8	1
70-74	1,195	1,187	8	-
75-79	1,371	1,368	2	1
80-84	1,033	1,027	3	3
85-89	522	517	5	-
90-94	212	209	3	-
95-99	60	59	1	-
100 & over	30	30	-	-
	Noncontributory			
Total	3,204	3,114	84	6
30-39	-	-	-	-
40-44	2	-	2	-
45-49	7	-	6	1
50-54	4	-	4	-
55-59	87	68	17	2
60-64	702	676	26	-
65-69	1,243	1,219	22	2
70-74	747	740	7	-
75-79	272	272	-	-
80-84	101	100	-	1
85-89	33	33	-	-
90-94	5	5	-	-
95-99	1	1	-	-
100 & over	-	-	-	-
	Hybrid			
Total	692	672	19	1
30-39	-	-	-	-
40-44	-	-	-	-
45-49	-	-	-	-
50-54	1	-	1	-
55-59	85	77	8	-
60-64	332	321	10	1
65-69	227	227	-	-
70-74	34	34	-	-
75-79	8	8	-	-
80-84	4	4	-	-
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	3,153	2,994	33	126
30-39	-	-	-	-
40-44	5	-	3	2
45-49	46	38	5	3
50-54	197	184	1	12
55-59	529	508	7	14
60-64	811	782	4	25
65-69	660	623	5	32
70-74	430	412	3	15
75-79	220	210	1	9
80-84	121	114	-	7
85-89	96	88	4	4
90-94	33	31	-	2
95-99	5	4	-	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	10,539	$ 1,563	7,425	$ 1,303	3,114	$ 2,184
Less than 5	14	393	10	403	4	367
5-9	48	321	43	256	5	875
10-14	2,219	516	1,897	488	322	681
15-19	1,461	835	1,198	787	263	1,052
20-24	1,364	1,075	1,036	996	328	1,323
25-29	1,097	1,651	772	1,477	325	2,063
30-34	2,688	2,292	1,475	2,094	1,213	2,534
35 and over	1,648	2,835	994	2,561	654	3,251

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	10,539	$ 1,565	7,425	$ 1,305	3,114	$ 2,186
Less than 5	3,462	1,508	2,614	1,302	848	2,144
5-9	3,902	1,589	2,641	1,314	1,261	2,165
10-14	1,941	1,505	1,382	1,207	559	2,241
15-19	1,095	1,797	697	1,516	398	2,289
20-24	136	1,331	89	992	47	1,972
25 and over	3	1,303	2	1,433	1	1,042

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	22,436	$ 2,250	13,015	$ 1,725	6,427	$ 2,698	2,994	$ 3,567
Less than 5	29	345	24	356	5	289	-	-
5-9	907	326	725	336	176	284	6	395
10-14	1,670	623	1,411	611	220	628	39	1,014
15-19	2,113	1,037	1,725	985	333	1,210	55	1,647
20-24	2,798	1,514	2,083	1,363	592	1,830	123	2,537
25-29	6,592	2,465	3,052	1,933	1,728	2,505	1,812	3,324
30-34	5,931	3,067	2,514	2,554	2,546	3,137	871	4,339
35 and over	2,396	3,447	1,481	3,021	827	4,054	88	4,905

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	22,436	$ 2,250	13,015	$ 1,725	6,427	$ 2,698	2,994	$ 3,567
Less than 5	2,374	3,332	1,251	2,565	509	3,687	614	4,600
5-9	3,301	2,952	1,641	2,294	1,033	3,436	627	3,877
10-14	3,020	2,419	1,641	1,837	825	2,910	554	3,414
15-19	5,058	2,448	2,830	1,943	1,621	2,950	607	3,462
20-24	4,051	1,733	2,488	1,378	1,270	2,210	293	2,688
25-29	2,906	1,450	1,992	1,228	770	1,829	144	2,487
30-34	1,273	1,165	889	978	285	1,455	99	2,004
35 and over	453	906	283	772	114	918	56	1,559

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	23,349	$ 1,562	22,152	$ 1,601	853	$ 781	344	$ 976	-	$ -
	Contributory									
Total	13,395	$ 1,704	13,015	$ 1,725	184	$ 734	196	$ 1,239	-	$ -
Maximum	1,652	1,708	1,612	1,727	23	1,006	17	924	-	-
Option 1	907	1,158	858	1,174	28	802	21	987	-	-
Option 2	695	2,016	664	2,047	12	1,178	19	1,473	-	-
Option 3	348	2,609	338	2,648	7	842	3	2,304	-	-
Option 4	5,493	1,955	5,349	1,978	58	739	86	1,294	-	-
Option 5	4,300	1,374	4,194	1,388	56	474	50	1,203	-	-
	Noncontributory									
Total	8,133	$ 1,253	7,425	$ 1,305	573	$ 740	135	$ 580	-	$ -
Maximum	4,462	1,273	4,171	1,311	224	772	67	584	-	-
Option A	1,551	1,332	1,442	1,370	85	881	24	603	-	-
Option B	1,655	1,102	1,387	1,188	230	666	38	573	-	-
Option C	465	1,344	425	1,409	34	680	6	484	-	-
	Hybrid									
Total	1,821	$ 1,898	1,712	$ 1,948	96	$ 1,117	13	$ 1,132	-	$ -
Maximum	690	1,786	665	1,809	22	1,166	3	1,180	-	-
Option 1	134	1,780	127	1,802	5	1,496	2	1,125	-	-
Option 2	408	1,773	358	1,871	44	1,069	6	1,106	-	-
Option 3	302	2,332	291	2,375	9	1,223	2	1,147	-	-
Option 4	188	2,190	180	2,240	8	1,076	-	-	-	-
Option 5	99	1,481	91	1,529	8	936	-	-	-	-

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	10,369	$ 2,509	10,213	$ 2,529	144	$ 1,195	12	$ 1,535	-	$ -
	Contributory									
Total	6,473	$ 2,688	6,427	$ 2,698	41	$ 1,118	5	$ 2,210	-	$ -
Maximum	935	2,975	925	2,993	10	1,289	-	-	-	-
Option 1	335	2,055	330	2,076	4	775	1	388	-	-
Option 2	233	2,759	232	2,764	1	1,686	-	-	-	-
Option 3	145	3,618	142	3,655	2	2,258	1	1,077	-	-
Option 4	2,425	3,029	2,410	3,040	13	1,188	2	2,629	-	-
Option 5	2,400	2,257	2,388	2,263	11	746	1	4,327	-	-
	Noncontributory									
Total	3,204	$ 2,157	3,114	$ 2,186	84	$ 1,185	6	$ 940	-	$ -
Maximum	2,091	2,216	2,036	2,243	51	1,226	4	1,081	-	-
Option A	514	2,219	507	2,233	6	1,243	1	956	-	-
Option B	419	1,836	393	1,888	25	1,087	1	361	-	-
Option C	180	2,046	178	2,055	2	1,174	-	-	-	-
	Hybrid									
Total	692	$ 2,467	672	$ 2,498	19	$ 1,410	1	$ 1,729	-	$ -
Maximum	306	2,349	298	2,371	8	1,526	-	-	-	-
Option 1	46	2,346	46	2,346	-	-	-	-	-	-
Option 2	139	2,317	134	2,352	4	1,309	1	1,729	-	-
Option 3	106	2,836	103	2,878	3	1,389	-	-	-	-
Option 4	50	2,852	48	2,931	2	946	-	-	-	-
Option 5	45	2,558	43	2,601	2	1,639	-	-	-	-

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	3,153	$ 3,458	2,994	$ 3,567	33	$ 989	126	$ 1,507	-	$ -
Maximum	86	2,999	64	3,530	-	-	22	1,454	-	-
Option 1	28	3,347	22	3,518	1	2,175	6	2,721	-	-
Option 2	95	3,520	83	3,792	7	1,399	5	1,980	-	-
Option 3	27	3,746	24	4,033	2	1,157	1	2,036	-	-
Option 4	1,789	3,823	1,741	3,889	13	1,038	35	1,553	-	-
Option 5	1,127	2,905	1,060	3,013	10	488	57	1,322	-	-

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	1,322	$ 1,843	1,255	$ 1,886	58	$ 1,057	9	$ 986	-	$ -
	Contributory									
Total	232	$ 2,843	231	$ 2,848	1	$ 1,664	-	$ -	-	$ -
Maximum	43	2,935	42	2,965	1	1,664	-	-	-	-
Option 1	8	3,436	8	3,436	-	-	-	-	-	-
Option 2	37	3,145	37	3,145	-	-	-	-	-	-
Option 3	22	2,841	22	2,841	-	-	-	-	-	-
Option 4	96	2,898	96	2,898	-	-	-	-	-	-
Option 5	26	1,878	26	1,878	-	-	-	-	-	-
	Noncontributory									
Total	547	$ 1,315	514	$ 1,332	27	$ 1,066	6	$ 915	-	$ -
Maximum	274	1,218	258	1,231	13	1,039	3	856	-	-
Option A	130	1,372	123	1,394	6	1,002	1	946	-	-
Option B	125	1,403	115	1,428	8	1,156	2	987	-	-
Option C	18	1,755	18	1,755	-	-	-	-	-	-
	Hybrid									
Total	543	$ 1,948	510	$ 2,007	30	$ 1,028	3	$ 1,128	-	$ -
Maximum	198	1,774	190	1,805	8	1,033	-	-	-	-
Option 1	39	1,563	36	1,612	2	819	1	1,284	-	-
Option 2	117	1,783	106	1,859	10	1,037	1	1,192	-	-
Option 3	109	2,543	105	2,598	3	1,174	1	908	-	-
Option 4	49	2,367	47	2,428	2	937	-	-	-	-
Option 5	31	1,420	26	1,494	5	1,035	-	-	-	-

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	551	$ 2,836	538	$ 2,871	13	$ 1,416	-	$ -	-	$ -
	Contributory									
Total	111	$ 4,156	111	$ 4,156	-		-	$ -	-	$ -
Maximum	22	4,489	22	4,489	-	-	-	-	-	-
Option 1	6	4,316	6	4,316	-	-	-	-	-	-
Option 2	10	3,206	10	3,206	-	-	-	-	-	-
Option 3	7	5,120	7	5,120	-	-	-	-	-	-
Option 4	52	4,253	52	4,253	-	-	-	-	-	-
Option 5	14	3,404	14	3,404	-	-	-	-	-	-
	Noncontributory									
Total	208	$ 2,243	199	$ 2,287	9	$ 1,269	-	$ -	-	$ -
Maximum	123	2,434	120	2,467	3	1,121	-	-	-	-
Option A	38	2,135	38	2,135	-	-	-	-	-	-
Option B	43	1,805	38	1,879	5	1,243	-	-	-	-
Option C	4	2,127	3	2,221	1	1,846	-	-	-	-
	Hybrid									
Total	232	$ 2,736	228	$ 2,754	4	$ 1,745	-	$ -	-	$ -
Maximum	105	2,786	104	2,793	1	2,046	-	-	-	-
Option 1	15	3,484	15	3,484	-	-	-	-	-	-
Option 2	46	2,389	44	2,430	2	1,490	-	-	-	-
Option 3	41	2,970	40	2,996	1	1,954	-	-	-	-
Option 4	12	2,018	12	2,018	-	-	-	-	-	-
Option 5	13	2,623	13	2,623	-	-	-	-	-	-

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	162	$ 4,555	160	$ 4,579	-	$ -	2	$ 2,597	-	$ -
Maximum	5	3,841	4	4,159	-	-	1	2,570	-	-
Option 1	-	-	-	-	-	-	-	-	-	-
Option 2	7	3,561	6	3,717	-	-	1	2,624	-	-
Option 3	7	3,839	7	3,839	-	-	-	-	-	-
Option 4	123	4,875	123	4,875	-	-	-	-	-	-
Option 5	20	3,365	20	3,365	-	-	-	-	-	-

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.