



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

Financial Statements

June 30, 2015

(With Independent Auditors' Report Thereon)

Submitted by

**THE AUDITOR
STATE OF HAWAII**

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

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Independent Auditors' Report

The Auditor
The State of Hawaii:

Report on the Financial Statements

We have audited the accompanying financial statements of the Employees' Retirement System of the State of Hawaii (the ERS) as of and for the year ended June 30, 2015 and the related notes to the financial statements, which collectively comprise the ERS' basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal controls relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting principles used and the reasonableness of significant estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Employees' Retirement System of the State of Hawaii as of June 30, 2015, and the changes in fiduciary net position for the year then ended in conformity with U.S. generally accepted accounting principles.

Emphasis of Matter

As discussed in Note C(1) to the financial statements, in 2015, the ERS adopted Governmental Accounting Standards Board Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73*. Our opinion is not modified with respect to this matter.



Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis on pages 3 through 9 and required supplementary information including the schedules of changes in the employers' net pension liability and related ratios, employers' net pension liability, employer contributions, and investment returns on pages 43 through 49 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary and Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the ERS' basic financial statements. The supplementary information including the combining schedule of changes in fiduciary net position, social security contribution fund, statement of changes in assets and liabilities, schedules of administrative expenses and investment expenses in schedules 1 through 4 for the year ended June 30, 2015 is presented for purposes of additional analysis, and is not a required part of the basic financial statements. The combining schedule of changes in fiduciary net position, social security contribution fund, statement of changes in assets and liabilities, schedules of administrative expenses and investment expenses are the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining schedule of changes in fiduciary net position, social security contribution fund, statement of changes in assets and liabilities, schedules of administrative expenses and investment expenses are fairly stated in all material respects in relation to the basic financial statements taken as a whole.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 18, 2016, on our consideration of the ERS' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the ERS' internal control over financial reporting and compliance.

KPMG LLP

Honolulu, Hawaii
November 18, 2016

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

Management's Discussion and Analysis (Unaudited)

June 30, 2015

Management's Discussion and Analysis (MD&A) of the Employees' Retirement System of the State of Hawaii (the ERS) provides highlights and comparisons of the financial position and performance of the ERS as of and for the year ended June 30, 2015. The MD&A is presented as a narrative overview and analysis. For more detailed information pertaining to the ERS' financial activities, the reader should also review the actual financial statements, including the notes and supplementary schedules.

Overview of the Financial Statements

The ERS is responsible for administering a defined-benefit pension plan for state government, local government, and public education employees in the State of Hawaii (the State). The ERS also oversees the short-term investments of the federal Social Security employer contributions for the State in the Social Security Contribution Fund (Contribution Fund).

The ERS' financial statements include fiduciary type funds that are used to account for resources held for the benefit of parties outside of the ERS. The primary fund is defined as a Pension Trust Fund as these assets are held for the benefit of its members and their beneficiaries for the payment of pension benefits, while the Contribution Fund is an agency type fund that is custodial in nature. Throughout this discussion and analysis, units of measure (i.e., billions, millions, and thousands) are approximate, being rounded up or down to the nearest tenth of the respective unit value.

The ERS adopted Governmental Accounting Standards Board (GASB) Statement No. 82, *Pension Issues – an amendment of GASB Statement No. 67, No. 68, and No. 73*, in 2015. As a result, certain FY 2014 amounts for contributions have been reclassified to be consistent with the current year reporting.

The objective of GASB Statement No. 82 is to address certain issues that have been raised with respects to GASB Statement No. 67, No. 68 and No. 73, regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. The major impact for the ERS reporting is to rescind the change implemented for FY 2014 that required almost all "member contributions" to be classified for financial statement reporting as "employer contributions" since these member contributions are "picked up" by the employer and treated as employer contributions under Internal Revenue Code section 414(h)(2). The new standards are discussed in more detail later in the applicable sections of this MD&A and the Notes to Financial Statements.

This discussion and analysis is intended to serve as an introduction to the ERS' financial reporting, which comprises the following components:

- The two main basic financial statements include the statement of fiduciary net position as of June 30, 2015, and the related statement of changes in fiduciary net position during the fiscal year from July 1, 2014 to June 30, 2015 (FY 2015). These provide a snapshot of the resources available at the end of the fiscal year and a summary of changes in resources available to pay pension benefits to members, retirees, and beneficiaries.
- The related notes to financial statements are an integral part of the basic financial statements and include detailed information that is essential to a full understanding of the data provided in the basic financial statements.

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- The Required Supplementary Schedules of Changes in the Employers' Net Pension Liability and Related Ratios, Employers' Net Pension Liability, Employer Contributions and Investment Returns, and the related Notes to Required Supplementary Information, are required to be presented to supplement the basic financial statements for placing the financial statements in an appropriate operational, economic, or historical context.
- The remaining supplementary information is derived from and relate directly to the underlying accounting and other records used to prepare the financial statements, and provides additional detailed information concerning the changes in operating funds established by legislation, and the operating and investment related expenses of the ERS.

Financial Highlights

- While the fiduciary net position restricted for pension benefits (or net assets) increased during FY 2015 to \$14.5 billion, the funded status of ERS decreased slightly during the year. This represents an increase of \$0.3 billion, 2.1% from the fiduciary net position restricted for pension benefits of \$14.2 billion as of June 30, 2014.
- In FY 2015 the ERS earned a moderate 4.4% down from FY 2014, when the ERS achieved the returns of 17.8% on its investment portfolio, (gross of fees) using the time-weighted rate of return methodologies that are generally accepted by the Global Investment Performance Standards (GIPS). The investment program underperformed its actuarial goal and investment benchmark of 7.65% for the one-year period. Under GASB Statement No. 67 pension reporting standards, the annual money-weighted return on ERS' pension plan investments, net of pension plan investment expense, was 4.0% and 17.9% for FY 2015 and FY 2014, respectively.
- Effective October 1, 2014, the Board of Trustees of the System approved the adoption of a change in its asset allocation policy from the asset-class policy to a new risk-based asset allocation framework within the categories of Broad Growth, Principal Protection, Real Estate and Real Return. The results of operations for these FY 2015 financial statements are prepared on the historical asset-based investment strategy since these policies were in effect for the entire fiscal year, except for fixed income which transitioned to the new risk based strategy in the last quarter of the year. Please refer to Note F1 later in Notes to Financial Statements for more detailed information on the asset allocation policy.
- There was no legislation implemented in 2015 that significantly impacts the pension trust. The BOT reduced the nominal investment return target rate for the ERS investment portfolio from 7.75% at June 30, 2014 to 7.65% as of June 30, 2015 while the payroll growth and inflation assumptions remained constant at 3.5% and 3.0%, respectively.
- Total pension liability as of June 30, 2015 increased to \$23.2 billion from June 30, 2014 that was \$22.2 billion, while the corresponding net pension liability was \$8.7 billion and \$8.0 billion, respectively. Covered payroll for the ERS increased in FY 2015 to \$4.0 billion from FY 2014 total of \$3.8 billion in FY 2013, for 5.3% increase.
- The fiduciary net position as a percentage of total pension liability was 62.4% and 63.9% as of June 30, 2015 and June 30, 2014, respectively, while the funded ratio on an actuarial basis increased to 62.2% from 61.4%, respectively. The main difference between the two methods is under GASB Statement No. 67 for financial reporting purposes the fiduciary net position is based only on the market value of assets while under actuarial value for the net assets for funding purposes allows for a four-year market smoothing of assets of net appreciation.

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June 30, 2015

- Contributions from members and employers increased by a total of \$82.1 million during FY 2015, or 9.6%. Most of the increase is due to an increase in required contribution rates paid by the employers for all employee groups, and to a lesser extent an increase in member contributions with more active members being required to contribute, and an increase in new employees contributing at higher contribution rates. In accordance with 2011 legislation, the employer contribution rate will increase at the beginning of the next fiscal year and new members will pay a higher contributions rate.
- Total retirement benefit payments increased by \$48.3 million, or 4.3%, to \$1,170.7 million in FY 2015 from \$1,122.4 million in FY 2014. Pension benefits continues to increase due to 2.8% more retirees and beneficiaries (44,283 in 2015 versus 43,087 in 2014), an increase in the average pension benefit for new retirees, and the annual 2.5% postretirement increase.
- Administrative expenses increased \$1.4 million, to \$14.0 million in FY 2015 from \$12.6 million in FY 2014 or 11.1% mainly due to the increase in payroll related costs. Administrative expenses for all years were within the ERS' budgeted amounts.

Analysis of Fiduciary Net Position Restricted for Pension Trust

Summary of Fiduciary Net Position

June 30, 2015 and 2014

(Dollars in millions)

	<u>2015</u>	<u>2014</u>	<u>FY 2015 percentage change</u>
Assets:			
Cash and cash equivalents and short-term investments	\$ 656.5	421.3	55.8 %
Receivables	213.5	189.1	12.9
Investments	14,145.3	14,064.0	0.6
Invested securities lending collateral	1,232.8	1,233.1	0.0
Equipment	8.3	10.1	(17.8)
Total assets	16,256.4	15,917.6	2.1
Liabilities:			
Securities lending liability	1,232.8	1,233.1	0.0
Investment accounts and other payables	518.1	481.5	7.6
Total liabilities	1,750.9	1,714.6	2.1
Fiduciary net position restricted for pensions	\$ 14,505.5	14,203.0	2.1

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Management's Discussion and Analysis (Unaudited)

June 30, 2015

Summary of Changes in Fiduciary Net Position

June 30, 2015 and 2014

(Dollars in millions)

	<u>2015</u>	<u>2014</u>	<u>FY 2015 percentage change</u>
Additions:			
Contributions	\$ 941.3	859.2	9.6%
Net investment income	<u>556.4</u>	<u>2,175.5</u>	<u>(74.4)</u>
Total additions	<u>1,497.7</u>	<u>3,034.7</u>	<u>(50.6)</u>
Deductions:			
Pension benefit payments	1,170.7	1,122.4	4.3
Refund of contributions	10.5	8.5	23.5
Administrative expenses	<u>14.0</u>	<u>12.6</u>	<u>11.1</u>
Total deductions	<u>1,195.2</u>	<u>1,143.5</u>	<u>4.5</u>
Increase fiduciary in net position	<u>\$ 302.5</u>	<u>1,891.2</u>	<u>(84.0)</u>

Investments, Investment Income, and Investment Expense

The ERS is a long-term investor and manages its pension assets with long-term objectives in mind. A primary element of the ERS' investment philosophy is diversification among various asset classes. The ERS makes estimates of long-term market returns and establishes an asset allocation strategy taking into account the risks associated with each asset class.

The ERS investment portfolio earned 4.2% on investments (gross of fees time-weighted rate of returns) during due to the strength of the domestic public private equity markets during the year compared to 17.8% in FY 2014. Total net investment income was \$556.4 in FY 2015 and \$2,175.5 in FY 2014.

Real estate, private equity and domestic equity asset-type allocations exceeded the 7.65% investment benchmark for FY 2015 with returns of 18.7%, 12.8% and 8.0%, respectively. Other classes with positive returns that did not exceed the benchmark include international fixed income at 6.8%, covered calls at 5.6%, real return at 5.4% diversified fixed-income at 1.9%. Only international equity incurred losses at -4.3% during the year.

The ERS participates in a securities lending program through its global custodian as a way to earn incremental income to enhance the investment portfolio yield.

The asset distribution of the ERS' investment securities for the pension trust, excluding pending trade settlements and securities lending collateral, at June 30, 2015 and 2014 is presented below at fair value. Investment balances between the asset classes will change over time based on market sectors' performance and our rebalancing efforts to maintain asset allocation targets. Changes will also occur for financial reporting

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since certain real estate and alternative investments are reported on the consolidated method of accounting using the value of the underlying investments since ERS is the majority owner of the business organization.

Investments in short-term securities and cash are generally held by external investment managers for liquidity to settle pending trades and investments, and should not exceed 5% – 10% of the investments for certain managers based on their investment mandate. These amounts reported on the financial statements also include cash requirements used by ERS to fund pension benefits and transition amounts between individual investments. Fluctuations will occur based on the trading activity and timing of the settlements. The changes during FY 2015 are mainly due to positive investment returns in most asset classes and to a lesser extent asset rebalancing.

Investment Asset Class

June 30, 2015 and 2014

(Dollars in millions)

	2015	Percentage	2014	Percentage
Short-term investments and cash	\$ 656.5	4.4%	\$ 421.3	2.9
Equity securities	9,261.5	62.6	9,450.3	65.2
Fixed income	2,807.1	19.0	2,670.1	18.4
Real estate	1,188.5	8.0	1,192.6	8.2
Alternative investments	888.2	6.0	751.1	5.2
Total investment assets	14,801.8	<u>100.0</u>	14,485.4	<u>100.0</u>
Less loans on real estate and alternative investments	247.4		251.1	
Total	\$ 14,554.4		\$ 14,234.3	

Investment expenses includes (a) investment management fees paid to external investment advisor firms that oversee the ERS' investment portfolio and (b) operational activities of certain real estate and alternative investments since these assets are reported on the consolidated method of accounting using the activity of the underlying investments since ERS is the majority owner of the business organization.

Total investment management fees earned by external investment advisors increased approximately 30.3% during FY 2015 compared to FY 2014 primarily from incentive fees accrued during the year for excess returns by real estate managers on the separately managed accounts. During FY 2014, there were negative accruals of incentive fees since real return on the real estate portfolios did not exceed the benchmark required for the manager to be eligible for the incentive fees. The real estate investment managers may receive an incentive fee for superior investment returns by the manager above their corresponding benchmark, while maintaining an acceptable level of investment risk. Incentive fees are recognized on the accrual basis of accounting for the increase or decrease of the change in real estate values during the year, and are only paid upon the sale of the asset if the asset has "excess earnings" when the real estate asset is actually sold. The ERS requires external managers to provide the ERS with a "most favored nations" contract clause that guarantees the ERS with the lowest management fees the managers offer their clients for investment accounts with similar investment mandates and similar account size.

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Effective October 1, 2014, the ERS adopted a risk-based, functional framework for allocating capital within the total portfolio. This framework shifts the portfolio asset allocation from a return-based process to a risk-based process that makes use of strategic/functional classes that in-turn utilize underlying asset classes and strategies. Each of these classes is designed to achieve a certain goal (e.g., Real Return class) and/or be exposed to a specific set of macroeconomic risks that are common among the different strategy types and/or assets within the class (e.g., Broad Growth class). As a result of this structure, each strategic class is expected to be exposed to a set of major and minor macroeconomic risks.

Contributions

Contributions from employers and employees totaled \$941.3 million and \$859.2 million in FY 2015 and FY 2014, respectively. During FY 2015, total contributions increased by \$82.1 million, or 9.6%, with the continued implementation of legislation passed in 2011 and 2012 that raised employer contribution rates for all employee groups and increased contribution rates for new members. The increase in contributions is mainly due to an increase in employer contribution rates effective July 1, 2014, and to a lesser extent, an increase in covered payroll and an increase in the percentage of active members required to make during the year. The 2011 legislation further increases employer contribution rates again on July 1, 2015.

Pension Plan Benefits and Expenses

Pension benefit payments continue to be the primary expense of the ERS with payments increasing to \$1,170.7 million in FY 2015 from \$1,122.4 million in FY 2014. The pension benefits increase can be attributed to the continued net increase in the number of retirees being paid, higher pension benefits for recent retirees, and the annual postretirement increase for ERS' retirees.

Refunds to terminating Hybrid and Contributory members increased slightly during the year.

Administrative expenses increased in FY 2015 by \$1.4 million primarily from an increase in salaries and fringe benefits cost, and to a lesser extent a slight increase in auditing and tax consulting. These costs were offset by slight decrease in computer system maintenance.

Pension Plan Changes

There was no significant legislation passed in 2015 that affects pension plan provisions. Pension plan changes, including legislative and Board of Trustees' actions, are summarized in the notes to the financial statements.

Actuarial Valuations and Measurement of Net Pension Liability

As discussed later in the Notes to Financial Statements, the GASB Statement No. 67 includes reporting requirements for defined-benefit pension plans and the terminology used to evaluate the effectiveness of its funding policy. These financial statements are presented based on amendments in GASB Statement No. 82 that was adopted by ERS for FY 2015.

The total pension liability for fiscal year ended June 30 is based on the actuarial valuation performed as of June 30, 2015 and a measurement date of June 30, 2015.

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Management's Discussion and Analysis (Unaudited)

June 30, 2015

Per the valuation as of June 30, 2015, the ERS' total pension liability was \$23.2 billion, covered payroll totaled \$4.0 billion, and the ERS' fiduciary net position was \$14.5 billion resulting in a net pension liability of \$8.7 billion. The June 30, 2014 valuation results include the ERS' total pension liability of \$22.2 billion, covered payroll at \$3.8 billion, and the ERS' fiduciary net position of \$14.2 billion resulting in a net pension liability of \$8.0 billion. The ERS' fiduciary net position as a percentage of total pension liability was 62.4% and 63.9% on June 30, 2015 and 2014, resulting in the net pension liability as a percentage of covered payroll of 218.6% and 209.4%, respectively.

Requests for Information

This financial report is designed to provide a general overview of the Employees' Retirement System of the State of Hawaii's finances. For questions concerning any information in this report or for additional information, contact the Employees' Retirement System of the State of Hawaii, 201 Merchant Street, Suite 1400, Honolulu, Hawaii 96813.

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

Statement of Fiduciary Net Position

June 30, 2015

Assets:

Cash and cash equivalents and short-term investments:

Cash and cash equivalents	\$ 99,161,481
Short-term investments	<u>557,297,842</u>
	<u>656,459,323</u>

Receivables:

Accounts receivable and others	7,436,038
Investment sales proceeds	93,202,906
Accrued investment income	45,817,527
Employer and member contributions	<u>67,055,380</u>
	<u>213,511,851</u>

Investments, at fair value:

Equity securities	9,261,462,836
Fixed income securities	2,807,089,435
Real estate investments	1,188,494,377
Alternative investments	<u>888,218,644</u>
	<u>14,145,265,292</u>

Other:

Invested securities lending collateral	1,232,818,935
Equipment, at cost, net of depreciation	<u>8,297,696</u>
	<u>1,241,116,631</u>
Total assets	<u>16,256,353,097</u>

Liabilities:

Accounts and other payables	50,822,998
Payable for securities purchased	219,884,122
Securities lending collateral	1,232,818,935
Notes payable	<u>247,362,486</u>
	<u>1,750,888,541</u>
Total liabilities	

Commitments and contingencies

Fiduciary net position restricted for pensions	\$ 14,505,464,556
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See accompanying notes to financial statements.

**EMPLOYEES' RETIREMENT SYSTEM
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Statement of Changes in Fiduciary Net Position

Year ended June 30, 2015

Additions:

Contributions:

Employers contributions	\$ 717,792,981
Members contributions	<u>223,505,419</u>
Total contributions	<u>941,298,400</u>

Investment income:

From investing activities:

Net appreciation in fair value of investments	231,015,994
Interest on fixed income securities	87,362,110
Dividends on equity securities	146,174,760
Income on real estate investments	102,510,933
Interest on short-term investments	170,574
Alternative investment income	80,491,282
Miscellaneous	<u>482,442</u>
	648,208,095
Less investment expenses	<u>97,364,284</u>
Net investment income from investing activities	<u>550,843,811</u>

From securities lending activities:

Securities lending income	5,401,083
Less securities lending expenses, net	<u>(191,581)</u>
Net investment income from securities lending activities	<u>5,592,664</u>
Total net investment income	<u>556,436,475</u>
Total additions	<u>1,497,734,875</u>

Deductions:

Benefit payments	1,170,744,770
Refunds of member contributions	10,507,888
Administrative expenses	<u>14,032,964</u>
Total deductions	<u>1,195,285,622</u>
Net increase in fiduciary net position	302,449,253

Fiduciary net position restricted for pensions:

Beginning of year	<u>14,203,015,303</u>
End of year	<u>\$ 14,505,464,556</u>

See accompanying notes to financial statements.

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

Notes to Financial Statements

June 30, 2015

Note A – Description of the ERS

1. General

The Employees' Retirement System of the State of Hawaii (the ERS) began operations on January 1, 1926, having been established by the Territorial Legislature in the preceding year. The provisions of the ERS are contained in Chapter 88 of the Hawaii Revised Statutes (HRS) and applicable provisions of the federal Internal Revenue Code. The ERS is a cost-sharing, multiple-employer defined benefit pension plan established to administer a pension benefits program for all State and county employees, including teachers, professors, police officers, firefighters, correction officers, judges, and elected officials.

The ERS is a qualified defined-benefit pension plan under Section 401(a) of the Internal Revenue Code. The ERS' current favorable determination letter as a qualified plan received from the Internal Revenue Service expires on January 31, 2019. Since January 1, 1988, member contributions have been tax deferred under Section 414(h)(2) of the Internal Revenue Code, and Chapter 88 mandates that employers pick up the employee contributions. With the adoption of GASB Statement 82 for FY 2015 these contributions are being classified as member contributions. As a public entity, the ERS is not required to file a federal income tax return with the Internal Revenue Service. As a defined-benefit pension plan, the ERS is required to withhold federal income tax from member and benefit recipient payments in accordance with the Internal Revenue Code.

The ERS Pension Trust comprises three pension classes for membership purposes and considered to be a single plan for accounting purposes since all assets of the ERS may legally be used to pay the benefits of any of the ERS members or beneficiaries, as defined by the terms of the ERS. The ERS provides retirement, survivor, and disability benefits with three membership classes known as contributory, hybrid, and noncontributory members.

Generally, all full-time employees of State and counties of Hawaii are required to be members of the ERS. Some positions of the State and counties of Hawaii are not eligible for ERS membership and may be covered by another separate retirement program. Membership of the plan and the benefits provided are based on the individual's employment group and ERS membership date. A member may belong to only one class based on their latest employment. A member may change classes in certain situations due to a change in their employment date or job classification. If a member earns service in different benefit structures, the member's retirement benefit is bifurcated based on the applicable membership service earned (such as service credits and benefit multiplier percentage of such service).

The two major employment groups applicable to employer and member contribution rates, vesting requirements, and benefit provisions are (a) Police and Firefighters and (b) All Other Employees. There are four major benefit structures for contributory members based on employment group and membership date while there are two benefit structures for hybrid members based on their membership date as discussed below. Noncontributory members have one benefit structure.

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Notes to Financial Statements

June 30, 2015

Employer, pensioner, and employee membership data as of March 31, 2015 are as follows:

Employers:	
State	1
County	4
Total employers	<u>5</u>
Pensioners and beneficiaries currently receiving benefits:	
Pensioners currently receiving benefits:	
Police and firefighters	3,402
All others employees	<u>37,255</u>
Total pensioners	<u>40,657</u>
Beneficiaries currently receiving benefits:	
Police and firefighters	270
All others employees	<u>3,356</u>
Total beneficiaries	<u>3,626</u>
Total pensioners and beneficiaries	<u>44,283</u>
Terminated vested members entitled to benefits but not yet receiving benefits:	
Police and firefighters	361
All others employees	<u>7,052</u>
Total terminated vested members	<u>7,413</u>
Inactive members:	
Police and firefighters	486
All other employees	<u>13,354</u>
Total inactive members	<u>13,840</u>
Total terminated vested and inactive members	<u>21,253</u>
Active members:	
Vested:	
Police and firefighters	4,157
All other employees	<u>44,786</u>
Total vested members	<u>48,943</u>
Nonvested:	
Police and firefighters	887
All other employees	<u>17,480</u>
Total nonvested members	<u>18,367</u>
Total active members	<u>67,310</u>
Total membership	<u>132,846</u>

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2. *The Financial Reporting Entity*

As required by U.S. generally accepted accounting principles, these financial statements present the ERS (the primary government) as a separate reporting entity from the State of Hawaii (the State). The ERS is not part of the State's financial reporting entity because it is a separate legal entity that is fiscally independent of the State. The ERS was established by Chapter 88 of the HRS and is governed by a Board of Trustees (the Board) as discussed below.

The Board administers the ERS on behalf of public employees of both the State and county governments. Except for limited administrative functions, the State does not have the power to supervise or control the Board in the exercise of its functions, duties, and powers. The Board consists of eight members. The State Director of Finance is a statutory member of the Board. Four members of the Board are elected by members and retirees of the ERS and the other three members of the Board are appointed by the Governor. Decisions are made with the concurring vote of five members of the Board. The Board appoints the Executive Director and Chief Investment Officer and engages actuarial and other services required to transact the business of the ERS.

3. *Class Descriptions and Funding Policy*

Members of the ERS are contributory, hybrid, or noncontributory members. All assets of the ERS (in the Pension Trust) may be used to pay benefits to any member of the ERS. Contribution rates are determined by state law as a percentage of payroll.

The statutory employer contribution rate includes the normal cost and accrued liability contribution and is determined separately for two groups of employees: (a) police officers and firefighters and (b) all other employees. Employer contribution rates are subject to adjustment in certain situations based on the plan's funded status or actuarial investigations. The ERS performs an actuarial investigation of the experience at least once every five years, plus an annual actuarial valuation of the assets and liabilities of the funds of the pension trust. The Board of Trustees adopts mortality, service, and other assumptions, factors, and tables as deemed appropriate and necessary, based on the actuarial investigation and actuary recommendation. Generally, actuarial assumptions and methods were adopted by Board of Trustees on December 20, 2010 as recommended by Gabriel, Roeder, Smith and Company (GRS) (from the 2010 Experience Study for the five-year period from June 30, 2005 through June 30, 2010) while the investment return assumption was adopted beginning with the 2012 valuation.

Effective July 1, 2008, the statutory employer contribution rate for employees in the Police and Fire category increased from 15.75% to 19.70%, and the rate for employees in the All Other category increased from 13.75% to 15.00%. Per legislation passed in 2011, the rate for Police and Fire employees increased to 22.00% on July 1, 2012; 23.00% on July 1, 2013; 24.00% on July 1, 2014; and 25.00% on July 1, 2015 and the rate for All Other Employees increased to 15.50% effective July 1, 2012, 16.00% effective July 1 2013, 16.50% effective July 1, 2014 and 17.00% effective July 1, 2015. These employer contribution rates are applied to the total covered payroll in each respective category to determine the required employer contributions.

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Administration of the Pension Trust is financed through contributions from the employers and employees (if applicable) and investment earnings.

Effective July 1, 2012, employers may be required to make additional employer contributions to the ERS in certain situations. This legislation requires employers to pay additional contributions if a retiring employee, who was first employed prior to July 1, 2012 and who was last employed by the employer, has significant nonbase pay increases included in their average final compensation. The additional contribution is equal to the actuarial present value of the additional benefits earned due to the "excessive" nonbase pay increases.

Until June 30, 1984, all employees were required to be contributory members. Employees covered by Social Security on June 30, 1984 were given the option of becoming noncontributory members or remain contributory members. All new employees hired after June 30, 1984 and before July 1, 2006, who are covered by Social Security, were generally required to be noncontributory members. Qualified contributory and noncontributory members were given the option of becoming Hybrid members effective July 1, 2006, or remain in their existing class. Starting July 1, 2006, all new employees covered by Social Security are required to be Hybrid members, unless they are required to be Contributory members. Most employees not covered by Social Security (primarily Police and Fire employees) are required to be Contributory members.

The three membership classes provide a monthly retirement allowance (maximum allowance) equal to the benefit multiplier % (generally 1.25% or 2%) multiplied by the average final compensation (AFC), multiplied by years of credited service. The benefit multiplier decreased by 0.25% for new hybrid and contributory members hired after June 30, 2012. If a member earns service in different benefit structures, the member's retirement benefit is bifurcated based on the applicable membership service earned (such as service credits and benefit multiplier percentage of such service). In lieu of the maximum allowance, the member may elect to receive an actuarially equivalent alternate retirement option with a reduced lifetime allowance (such as survivor benefit).

The AFC is the average salary earned during the five highest paid years of service, including the payment of salary in lieu of vacation, or three highest paid years of service, excluding the payment of salary in lieu of vacation, if the employee became a member prior to January 1, 1971. The AFC for members hired on or after this date, and before July 1, 2012, is based on the three highest paid years of service excluding the payment of salary in lieu of vacation. For new members hired after June 30, 2012, the AFC is based on the five highest paid years of service excluding the payment of salary in lieu of vacation.

For postretirement increases, every retiree's original retirement allowance is increased by 2½% on each July 1 following the calendar year of retirement, if the retiree became an ERS member prior to July 1, 2012. This cumulative benefit is not compounded and increases each year by 2½% of the original retirement allowance without a ceiling (2½% of the original retirement allowance the first year, 5% the second year, 7½% the third year, etc.). For new members hired after June 30, 2012, the postretirement annuity increase was decreased to 1½% per year

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of the original retirement allowance without a ceiling (1½% of the original retirement allowance the first year, 3% the second year, 4½% the third year, etc.).

The following summarizes the provisions relevant to the largest employee groups of the respective membership class. Retirement benefits for certain groups, such as sewer workers, judges, and elected officials, vary from general employees.

All contributions, benefits, and eligibility requirements are governed by Chapter 88 of the Hawaii Revised Statutes. All of the statutory member contributions discussed in this section are classified as "member contributions" with the adoption of GASB Statement No. 82.

Contributory

Police officers, firefighters, and certain other members that are not covered by Social Security first hired prior to July 1, 2012 contribute 12.2% of their salary and receive a retirement benefit using the benefit multiplier of 2.5% for qualified service, up to a maximum of 80% of AFC. These members may retire at age 55 with 5 years of credited service or at any age with 25 years of credited service, provided the last 5 years of credited service is any of the qualified occupations.

Police officers, firefighters and certain other members that are not covered by Social Security first hired after June 30, 2012 contribute 14.20% of their salary and receive a retirement benefit using the benefit multiplier of 2.25% for qualified service, up to a maximum of 80% of AFC. These members may retire at age 60 with 10 years of credited service or at age 55 with 25 years of credited service, provided the last 5 years of credited service is any of the qualified occupations.

All other employees hired prior to July 1, 2012 are required to contribute 7.8% of their salary and are fully vested for benefits upon receiving 5 years of credited service. Contributory members may retire with full benefits at age 55 and 5 years of credited service. They may take early retirement at any age with at least 25 years of credited service and receive benefits reduced 5% per year under age 55 plus 4% per year under age 50. The benefit multiplier is 2% for employees covered by Social Security.

All other employees hired after June 30, 2012 are required to contribute 9.8% of their salary and are fully vested for benefits upon receiving 10 years of credited service. These members may retire with full benefits at age 60 and 10 years of credited service. Members may take early retirement at age 55 with 25 years of credited service and receive benefits reduced by 5% per year under age 60. The benefit multiplier is 1.75% for employees covered by Social Security.

Hybrid

All other employees hired before July 1, 2012 are required to contribute 6% of their salary and are fully vested for benefits upon receiving 5 years of credited service. Employees may retire with full benefits at age 62 and 5 years of credited service or at age 55 and 30 years of credited service. Early retirement benefits are available at age 55 and 20 years of credited service with

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benefits reduced by 5% per year under age 62. The benefit multiplier used to calculate retirement benefits is 2%. Members in the hybrid plan are covered by Social Security.

All other employees hired after June 30, 2012 are required to contribute 8% of their salary and are fully vested for benefits upon receiving 10 years of credited service. Employees may retire with full benefits at age 65 and 10 years of credited service or at age 60 and 30 years of credited service. Early retirement is available at age 55 and 20 years of credited service with benefits reduced 5% per year under age 65. The benefit multiplier used to calculate retirement benefits is 1.75%. Members in the hybrid plan are covered by Social Security.

Noncontributory

All other employees are fully vested upon receiving 10 years of credited service. The employer is required to make all contributions for these members. Employees may retire with full benefits at age 62 years and 10 years of credited service or age 55 and 30 years of credited services. Early retirement is available at age 55 years and 20 years of credited service with benefits reduced by 6% per year under age 62. The benefit multiplier used to calculate retirement benefits is 1.25%.

Ordinary disability retirement benefits require a minimum of 10 years of service, whereas service-connected disability resulting from a job-related accident does not have any service requirement. Under all three membership classes, there is no age requirement to qualify for disability benefits.

Ordinary death benefits for contributory and noncontributory members require at least one year and ten years of service, respectively. Ordinary death benefits for hybrid members require five years of service if hired prior to July 1, 2012 or ten years of service if hired after June 30, 2012. Under all three membership classes, there is no service requirement for service-connected death benefits.

4. *The ERS as Employer*

As an employer, the ERS participates in its pension benefits program, through the State. The ERS provides benefits for all of its full-time employees through the contributory, hybrid, or noncontributory membership classes. Contributions are calculated as part of the State's total contribution requirements and are reimbursed to the State's General Fund as part of the fringe-benefit rate on the ERS' employees' actual salaries.

5. *Other Post Employment Benefits (OPEB)*

In addition to the retirement benefits provided by the ERS Pension Trust, the participating employers, pursuant to HRS Chapter 87A, provide certain healthcare and life insurance benefits for State and county qualified employees and retirees. The Hawaii Employer-Union Health Benefits Trust Fund (EUTF) was established on July 1, 2003 to design, provide, and administer health benefits plans and a group life insurance benefits program for State and county employees and retirees.

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Under HRS § 87 A-33, the participating employers pay the EUTF a base monthly contribution for the health benefits plans of certain retired employees, including those who were hired before July 1, 1996 and retired after June 30, 1984, with ten or more years of credited service.

Under HRS § 87 A-34, the participating employers pay the EUTF one-half of the base monthly contribution for the health benefits plans of retired employees who were hired before June 30, 1996, and retired after June 30, 1984, with fewer than ten years of credited service.

Under HRS § 87 A-35 and HRS § 87 A-33(a)(6), the participating employers pay the EUTF for the health benefits plans of retired employees who were hired after June 30, 1996 but before July 1, 2001: (a) one-half of the base monthly contribution if the employee retired with between ten and fifteen years of credited service; (b) seventy-five percent of the base monthly contribution if the employee retired with between fifteen and twenty-five years of credited service; and (c) one hundred percent of the base monthly contribution if the employee retired with twenty-five or more years of credited service.

Under HRS § 87 A-36, the participating employers pay the EUTF for the health benefits plans of retired employees who were hired after June 30, 2001: (a) one-half of the base monthly contribution for a self-only plan if the employee retired with between ten and fifteen years of credited service; (b) seventy-five percent of the base monthly contribution for a self-only plan if the employee retired with between fifteen and twenty-five years of credited service; and (c) one hundred percent of the base monthly contribution for a self-only plan if the employee retired with twenty-five or more years of credited service.

Under HRS § 87 A-37, the participating employers pay the EUTF a base monthly contribution (currently \$4.16) for each retired employee enrolled in the EUTF group life insurance plan.

The net assets of the EUTF are not included in the ERS plan net assets. The EUTF issues a financial report that includes financial statements and required supplementary information.

Note B – Social Security Contribution Fund

The Social Security Contribution Fund (Contribution Fund) was established under Section 88-224 of the HRS for the following purposes:

1. To receive all federal Social Security employers' contributions from the State and interest and penalties on unpaid amounts
2. To receive any appropriations to the Contribution Fund
3. To pay amounts required to be paid to the Internal Revenue Service (IRS)
4. To invest and collect income on resources held by the Contribution Fund

All other nonstate governmental agencies remit Social Security contributions directly to the IRS. Social Security contributions withheld from employees are remitted directly to the IRS by the employers. The Contribution Fund is considered an agency fund for financial reporting purpose. At

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June 30, 2015, the ERS held no amounts in the Contribution Fund as all amounts deposited into the Contribution Fund were paid directly to the IRS.

Note C – Summary of Accounting Policies

A summary of the significant accounting policies consistently applied in the preparation of the accompanying financial statements is as follows:

1. Basis of Accounting

Fiduciary funds are used to account for assets held by the ERS in a trustee capacity or as an agent for individuals, private organizations, other governments, and/or other funds. The fiduciary fund types used by the ERS are a Pension Trust Fund and the Social Security Fund as an agency fund. Each of the fiduciary funds is considered a separate fiscal and accounting entity with a self-balancing set of accounts that comprise its assets, liabilities, equity, revenue and expenditures, or expenses, as appropriate. The accounting and reporting treatment applied to a fund is determined by its measurement focus. The Pension Trust Fund is accounted for on a flow of economic resources measurement focus. As an agency fund, the Contribution Fund is custodial in nature and does not measure results of operations.

The financial statements are prepared in conformity with U.S. generally accepted accounting principles (GAAP) using the accrual basis of accounting. Employer and member contributions are recognized in the period in which the contributions are legally due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Investment purchases and sales are recorded as of their trade date. Administrative expenses are financed exclusively with investment income.

The ERS implemented the provisions of GASB Statement No. 82, *Pension Issues – an amendment of GASB Statement No. 67, No. 68, and No. 73*, for the year ended June 30, 2015. This Statement clarifies that payments that are made by an employer to satisfy contribution requirements that are identified by the pension plan terms as plan member contribution requirements should be classified as plan member contributions for purposes of Statement 67 and as employee contributions for purposes of Statement 68. The ERS has adopted GASB Statement No. 82 for fiscal year ended June 30, 2015. The major impact for the ERS reporting is to rescind the change implemented for FY 2014 that required almost all “member contributions” to be classified for financial statement reporting as “employer contributions” since these member contributions are “picked up” by the employer and treated as employer contributions under Internal Revenue Code section 414(h)(2).

2. Method Used to Value Cash and Investments

The ERS' investment policy for cash and investments, including the legal authority, are discussed below in note F.

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Cash and investments are reported at fair value. Unrealized gains and losses are included as investment income in the statement of changes in fiduciary net position. The investments of the Pension Trust Fund and Contribution Fund (the Retirement Funds) are valued on a monthly basis using the following sources:

Publicly Traded Securities (Corporate stock, exchange-traded investment derivatives, and fixed income): Fair values are based on published market prices, quotations from national security exchanges, and security pricing services as of each month-end closing of the New York Stock Exchange.

Fixed Income Securities (including investment derivatives not publicly traded): Fair values are based on equivalent values of comparable securities with a similar yield and risk.

Pooled Equity, Fixed Income, and Short-Term Investment Funds (not publicly traded): Fair value are based on the ERS' pro rata ownership percentage of the fund reported by the fund manager based on the fair value of the underlying assets that is determined by published market prices, or quotations from national security exchanges.

Limited Partnerships: The fair value of investments that are organized as limited partnerships and have no readily ascertainable fair value (such as private equity, real estate, and tangible assets) are valued based on their respective net asset value (NAV), and are generally audited annually. The most significant element of NAV is the fair value of the investment holdings. These holdings are valued by the general partners using valuation assumptions based on both market and property specific inputs, which are not observable and involve a certain degree of expert judgment. Because of the inherent uncertainties in estimating fair values, it is at least reasonably possible that the estimates will change in the near term.

Private Equity Limited Partnerships: The fair value of individual capital account balances is based on the valuations reported by private equity partnerships using the following methodologies to value the underlying portfolio companies:

Valuations of publicly traded portfolio companies are based on active exchanges using quoted market prices as of the close of trading for each month-end.

When a portfolio company investment does not have a readily available market price, but has a return that is determined by reference to an asset for which a market price is readily available, valuations are based on the closing market price of the reference asset on the valuation date, adjusted for factors that affect the fair value of the investment held.

When the portfolio company investments are private holdings and are not traded on active security exchanges, valuation methodologies used consist primarily of income and market approaches. The income approach involves a discounted cash flow analysis based on portfolio companies' projections. The market approach involves valuing a company at a multiple of a specified financial measure (generally EBITDA) based on multiples at which comparable company's trade.

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Real Estate and Alternative Investments Limited Partnerships and Limited Liability Companies: The ERS has a controlling interest in certain real estate and alternative investment partnerships and limited liability companies. These investment companies provide quarterly valuations based on the most recent capital account balance to ERS management. Individual properties are valued internally by the investment companies at least annually, in accordance with standard industry practice, and are adjusted as frequently as quarterly if material market or operational changes have occurred. Properties are generally valued every one to three years by external third-party appraiser(s), depending upon the investment company. Alternative investments are valued using their respective NAV, and are generally audited annually. The most significant element of NAV is the fair value of the investment holdings. These holdings are valued by the general partners in conjunction with management, investment advisors, and valuation specialists. The valuation techniques vary based on investment type and involve a certain degree of expert judgment. The fair value for these investments could differ significantly if a readily market value for these assets existed. Annual audits of most partnerships and limited liability companies include a review of compliance with the investment company's valuation policies.

Notes Payable: Notes payable are shown at estimated fair values. Notes payable consist of mortgage notes within the limited liability companies and limited partnerships that are secured by real estate of the respective company.

3. *Revenue Recognition*

Interest and dividend income is recognized when earned. Capital gains and losses are recognized on a trade-date basis. Purchases and sales of investments are also recorded on a trade-date basis.

Contributions are recorded when legally due.

4. *Payment of Benefits*

Withdrawals are recorded when due and payable in accordance with the terms of the plan.

5. *Securities Lending*

The ERS records collateral received under securities lending agreements where the ERS has the ability to spend, pledge, or sell the collateral without borrower default. Liabilities resulting from these transactions are also recorded. Additionally, costs associated with securities transactions, broker commissions paid, and lending agent management fees are reported as investment expenses in the accompanying financial statements. The statement of fiduciary net position does not include detailed holdings of securities lending collateral by investment classification.

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6. *Interest and Earnings Allocation*

Pursuant to Sections 88-21 and 88-107 of the HRS, the Board shall annually allocate interest and other earnings of the Pension Trust Fund to the reserves of the Pension Trust Fund, as follows:

- a. Annuity Savings Reserve – Fixed at 4½% regular interest rate for employees hired before July 1, 2011 and 2% regular interest rate for employees hired after June 30, 2011
- b. Expense Reserve – To be credited with all money to pay the administrative expenses of the ERS
- c. Pension Accumulation Reserve – To be credited with any remaining investment earnings

7. *Risk Management*

The ERS reports liabilities, as discussed in note H, related to certain types of losses (including torts, theft of, damage to, or destruction of assets, errors or omissions, natural disasters, and injuries to employees) when it is probable that the losses have occurred and the amount of those losses can be reasonably estimated.

8. *Use of Estimates*

In preparing financial statements in conformity with accounting principles generally accepted in the United States, management is required to make estimates and assumptions that affect certain reported amounts and disclosures. Actual results could differ from those estimates.

Investments in limited partnerships and other alternative investments tend to be illiquid and the underlying assets are generally not publicly traded companies. Because of the inherent uncertainty in valuing privately held securities, the fair value may differ from the values that would have been used had a ready market for such securities existed, and the difference can be material. Accordingly, the realized value received upon the sale of the asset may differ from the recorded fair value.

The total pension liability is based on calculations that incorporate various actuarial and other assumptions, including discount rate, mortality, investment rate of return, inflation and payroll growth. The actuarial assumptions were based on the results of an experience study for the period from July 1, 2005 through June 30, 2010.

9. *Recently Issued Accounting Standards*

In February 2015, the GASB issued Statement No. 72, *Fair Value Measurement and Application*. GASB Statement No. 67 addresses accounting and financial reporting issues related to fair value measurements. The definition of fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This Statement provides guidance for determining a fair value measurement for financial reporting purposes and will enhance comparability of financial statements among governments by requiring measurement of certain assets and liabilities at fair value using a consistent and more detailed definition of fair value and accepted valuation

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techniques. Implementation requires disclosures to be made about fair value measurements, the level of fair value hierarchy, and valuation techniques. GASB Statement No. 72 will be effective for periods beginning after June 30, 2015. ERS has not yet determined the impact of this standard on its financial statements and disclosures.

In March 2016, the GASB issued Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73*. The objective of GASB Statement No. 82 is to address certain issues that have been raised with respects to GASB Statement No. 67, No. 68 and No. 73. regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. GASB Statement No. 82 is effective for reporting periods beginning after June 15, 2016 (except for certain selections of assumptions that will be effective June 15, 2017 in certain situations; that are not applicable to the ERS). The ERS has adopted GASB Statement No. 82 for fiscal year ended June 30, 2015. The major impact for the ERS reporting is to rescind the change implemented for FY 2014 that required almost all “member contributions” to be classified for financial statement reporting as “employer contributions” since these member contributions are “picked up” by the employer and treated as employer contributions under Internal Revenue Code section 414(h)(2).

Note D – Description of Reserves

Section 88-109 of the HRS requires the establishment and maintenance of specific reserves within the ERS. The reserves in the Pension Trust Fund and their purposes are described hereunder:

1. Pension Accumulation Reserve

To accumulate contributions made by the State and counties, (except member contributions “picked up” as employer contributions under pursuant to IRC Section 414(h)(2)) transfers of retired members’ contributions plus related interest income from the Annuity Savings Reserve, and income from investments. All pension benefits, including the pensioners’ bonus, are paid through this reserve.

2. Annuity Savings Reserve

To accumulate members’ contributions (including member contributions “picked up” as employer contributions under pursuant to IRC Section 414(h)(2)) and related interest income. Upon a member’s retirement, the accumulated contributions and related interest income are transferred to the Pension Accumulation Reserve or refunded to the member upon termination.

3. Expense Reserve

To pay all the expenses necessary in connection with the administration and operation of the ERS, the Board estimates the amount of money necessary to be paid into the expense reserve for the ensuing biennium to provide for the expense of operation of the ERS, and pays that amount into the expense account from the investment earnings of the ERS, subject to review by the legislature and approval by the Governor.

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Fiduciary net position restricted for pensions as of June 30, 2015 are as follows:

Pension Accumulation Reserve	\$ 12,201,467,662
Annuity Savings Reserve	2,293,539,670
Expense Reserve	<u>10,457,224</u>
Total fiduciary net position restricted for pensions	\$ <u>14,505,464,556</u>

Note E – Contributions

The ERS' funding policy provides for periodic employer contributions expressed as a percentage of annual covered payroll. The funding method used to calculate the total employer contribution required is the entry age normal actuarial cost method. Employer contributions are governed by Chapter 88 of the HRS. The actuarially determined contribution rates may differ from the statutory contribution rates.

Employer rates are set by statute based on the recommendation of the ERS actuary resulting from an experience study conducted every five years. Since July 1, 2005, employer contribution rates are a fixed percentage of compensation, including the normal cost plus amounts required to pay for the unfunded actuarial accrued liability. From July 1, 2005 to June 30, 2008, the required contribution rates for employers were 15.75% for their police officers and firefighters, and 13.75% for all other employees. From July 1, 2008 to June 30, 2012, employers contributed 19.70% for their police officers and firefighters, and 15.00% for all other employees. Effective July 1, 2012, the employer rate increased to 22.00% for their police officers and firefighters, and 15.50% for all other employees. Effective July 1, 2013, the employer rate increased to 23.00% for their police officers and firefighters, and 16.00% for all other employees. Effective July 1, 2014, the employer rate increased to 24.00% for their police officers and firefighters, and 16.50% for all other employees.

The employer normal cost is the level percentage of payroll contribution required to pay all benefits. Actuarial gains and losses resulting from differences between actual and assumed experience are reflected in the employer unfunded accrued liability.

Effective July 1, 2012, the last employer is required to make "additional contributions" to the ERS for employees that first became ERS members before July 1, 2012 and retire after June 30, 2012, if the member has "excessive" nonbase pay during the last 10 years of employment. The additional contributions are based on the increased costs of the actuarial equivalent increase in pension benefits the member will be paid in retirement compared to the pension benefits that would be paid if the member did not have excess nonbase pay in their Average Final Compensation amount.

Member contributions rates are statutorily established in accordance with Chapter 88 of the HRS, and are discussed in note A(3). Plan Descriptions and Funding Policy above. Since 1989, participating employers "pick up" ERS member contributions made by payroll deduction as "employer contributions" for tax purposes under IRC section 414(h)(2). In accordance with GASB Statement No. 82 these contributions are classified as member contributions. (In FY 2014, GASB Statement No. 67,

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classified these as employer contributions in the financial statements.) For the ERS actuarial valuation purposes member contributions are being calculated as being paid by the member.

Note F – Deposits and Investments Disclosures

1. *Investment Policy*

Investments are governed pursuant to Sections 88-119 and 88-119.5 of the HRS. The Pension Trust Fund may invest in real estate loans and mortgages; preferred and common stocks; government obligations; corporate obligations; certain other debt obligations (such as obligations secured by collateral of certain other authorized securities listed here, obligations issued or guaranteed by certain development banks, and insurance company obligations); real property; alternative investments; and other securities and futures contracts. Investments in the Securities Lending Collateral Pool and the Contribution Fund are limited to investment grade, short-term marketable securities.

The investment decision is further dictated by internal investment policies and asset allocation established by the Board. As a long-term investor, the ERS has established through its investment policy that preservation of capital is the primary goal of the ERS. Preservation of capital is to be attained with a consistent, positive return for the fund by diversifying the investment portfolio. The ERS recognizes risk associated for individual securities or asset classes may be reduced through diversification. Investments will be prudent and consistent with the best investment practices, in accordance with the Board's asset allocation strategy, assigned investment mandate, and in compliance with Chapter 88, HRS, as amended.

Use of leverage is restricted to certain asset classes in order to enhance yields of approved investments and/or to facilitate diversification of the portfolio. The use of debt must result in positive leverage where cash flow is in excess of debt service. Plan assets are managed on a total return with the long-term objective of achieving and maintaining a fully funded status basis (when combined with receiving the required employer and member contribution requirements) for the benefits provided through the Pension Trust. As part of the investment policy, the Board reviews the asset allocation annually and should perform a formal asset allocation study at least every three years to verify or amend the targets.

In 2010, the Board adopted an Evolving Investment Policy Asset Allocation to allow for a smooth transition to the new long-term policy asset allocation targets that became effective on July 1, 2014, and remained in place at September 30, 2014. In August 2014, the Board of Trustees of the System approved the adoption of a change in its asset allocation policy from the asset-class policy to a new risk-based asset allocation framework within the categories of Broad Growth, Principal Protection, Real Estate and Real Return. The new policy became effective as of October 1, 2014. The following table shows the high level mapping for the transition in methodologies.

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Prior asset classes	Historical Asset Type Asset Allocation	Risk Based Asset Allocation			
	Long-term strategic allocation	Broad growth	Principal protection	Real return	Real estate
Domestic equity	30%	30%	—	—	—
International equity	26%	26%	—	—	—
Total fixed income	20%	8%	12%	—	—
Real estate	7%	—	—	—	7%
Private equity	7%	7%	—	—	—
Real return	5%	—	—	5%	—
Covered calls	5%	5%	—	—	—
	100%	76%	12%	5%	7%

As of June 30, 2015, only fixed income assets were transitioned to the new risk based asset allocation. The following shows the historical asset-based allocation for the ERS as of June 30, 2015 since the transition to the new risk based strategy will be implemented over the next four fiscal years, thus the presentation of the risk-based allocation methodology is not very informative for financial reporting purposes at this time.

Asset class	Strategic allocation	Strategic Range	Long-term expected arithmetic rate of return
Domestic equity	30%	23%–37%	8.50%
International equity	26%	21%–33%	9.25%
Total fixed income	20%	15%–25%	3.10%
Real estate	7%*	5%–9%	9.20%
Private equity	7%*	4%–9%	11.85%
Real return	5%*	0%–10%	6.65%
Covered calls	5%	0%–10%	7.65%
	100%		

*The real estate, private equity, and real return targets will be the percentage actually invested up to 7%, 7%, and 5%, respectively of the total fund. Changes in the real estate, private equity, and real return targets will be offset by an equal percentage change in the large cap domestic equity target.

Rate of Return

For the year ended June 30, 2015, the annual money-weighted return on pension plan investments, net of pension plan investment expense, was 4.0%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for changing amounts actually invested.

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2. *Deposits*

Cash includes amounts in demand deposits for operations and invested funds held by ERS investment managers. The deposits are held in several financial institutions, including the custodian bank for processing investment transactions. Per State statute, deposits, held by banks located in the State, in excess of Federal Deposit Insurance Corporation (FDIC) coverage are guaranteed by securities pledged as collateral by the bank with the State Director of Finance. Uninsured and uncollateralized amounts are primarily cash held by the investment custodian for settlement of investment transactions. Deposits are presented in the basic financial statements at cost, which represent market or fair value.

Custodial Credit Risk for Deposits is the risk that in the event of a bank failure, the ERS' deposits may not be returned to them. The ERS has not adopted a formal policy specific to custodial credit risk. The ERS' policy is to deposit cash in excess of operating requirements in income producing investments to maximize investment income.

At June 30, 2015, the carrying amount of deposits totaled approximately \$99,161,481 and the corresponding bank balance was \$101,977,439, all of which was exposed to custodial credit risk.

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3. Investments

The following table shows the investments of the ERS by investment type as of June 30, 2015. Please refer to note C-2 above for a discussion of fair value on investments.

Cash and short-term investments:	
Cash and cash equivalents	\$ 99,161,481
Short-term bills and notes	38,792,691
Pooled and others	520,225,656
Fixed income securities:	
U.S. Treasury bonds and notes	384,056,356
U.S. government agencies bonds	22,416,591
U.S. government agency mortgage backed	5,649,276
U.S. government-sponsored agency mortgage backed	222,438,939
Commercial mortgage-backed securities	28,215,237
U.S. corporate bonds	864,304,416
Non-U.S. government/agency bonds	821,612,252
Non-U.S. corporate bonds	374,723,613
Pooled and others	9,370,072
Derivatives:	
Forwards – cash and short-term investments	(1,881,666)
Forwards – debt securities	72,311,288
Options – cash and short-term instruments	161,161
Options – equities	(4,546,519)
Options – debt securities	(320,215)
Swaps	2,311,610
Equities	9,266,009,355
Real estate	1,188,494,377
Alternative investments	<u>888,218,644</u>
Total investments	<u>\$ 14,801,724,615</u>
Short-term instruments for securities lending collateral pool	\$ 1,232,818,935

4. Credit Risk

Credit risk is defined as the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Information regarding ERS' credit risk on derivative investments is discussed below in derivative disclosures note F(10) while policies related to credit risk for securities lending program are discussed in note F(9) below.

The ERS utilizes two fixed income mandates during most of the fiscal year: (i) a "Diversified Manager" whose benchmark is 85% Lehman Universal/15% Lehman Multiverse ex-USD Hedged Index and (ii) an "International Mandate" whose benchmark is Lehman Multiverse ex-USD Hedged Index. The ERS expects its debt securities investment managers to maintain diversified portfolios within the mandate assigned by the Board using the following guidelines

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as to permissible credit quality ranges, exposure levels within individual quality tiers, and average credit quality:

- Securities with a quality rating of below Baa (based on Moody's rating scale) or equivalent are considered below investment grade.
- Invest in money market instruments; commercial paper (rated A1/P1); certificates of deposits and bankers acceptance; U.S. Treasury bonds, notes, and bills; U.S. government and agency securities; municipal bonds; 144A private placements; bank loans; nonleveraged structured notes; convertible bonds; mortgages, collateralized mortgage obligations (CMO) and asset-backed securities (backed by pools of mortgages guaranteed by the U.S. government or its agencies or corporate issues rated at least Aaa); investment grade corporate debt issues, emerging markets debt, preferred stock, and common stock; sovereign debt instruments (issued by agencies of, or guaranteed by foreign governments); and certain foreign securities (corporate debt issues, asset-backed securities, CMOs, 144A private placements, convertibles, and supranational issues). The minimum issuance size is \$150 million.
- Summary of concentration limits for debt securities are:
 - Specific issue or issuer of 5% (excludes supranationals, U.S. Treasuries, U.S. agencies, and sovereign debt and equivalently rated agencies of Organization for Economic Co-operation and Development (OECD) governments).
 - All fixed income manager portfolios are limited to (i) 15% in below investment grade securities with no more than 2% below a B rating; (ii) 10% in private placements; (iii) 5% in convertible securities; (iv) 10% in preferred stocks and common stocks (common stock holdings not to exceed 180 days); and (v) 10% in non-U.S. agency CMOs.
 - Diversified managers are limited to (i) 10% in emerging markets (local currency and debt); (ii) 30% of non-U.S. dollar denominated securities (excludes money market securities and money market futures); (iii) a 15% net foreign currency exposure (as measured by net amount of currency's outstanding long and short positions versus the U.S. dollar); and (iv) a 30% gross foreign currency exposure (as measured by absolute value of all country-level currency long- and short-currency positions versus the U.S. dollar).
 - International managers are limited to (i) 20% in emerging markets (local currency and debt); and (ii) 25% of U.S. dollar denominated securities (excludes money market securities and money market futures).

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A table of the ERS' fixed income securities as of June 30, 2015 is below. Securities below investment grade of Baa and nonrated issues (average rating by S&P, Moody's and/or Fitch) amounted to \$631,273,544 or 22.5% of total fixed income investments. All short-term investments, not held in a pooled investment, are rated A1/P1 or better.

Credit Rating – Average rating by S&P, Moody's and Fitch, as of June 30, 2015								
Ratings	U.S. Govt Agency	U.S. Govt-sponsored agency mortgage backed	U.S. corporate bonds	Commercial mortgage-backed securities	Non-U.S. corporate bonds	Non-U.S. govt/agencies bonds	Pooled & others	Total
AAA	\$ 22,416,591	221,899,350	10,141,679	19,691,702	—	222,597,634	—	496,746,956
AA1	—	539,589	1,743,744	1,414,306	6,345,591	181,016,223	—	191,059,453
AA2	—	—	—	46,220	5,936,407	31,017,585	1,874,653	38,874,865
AA3	—	—	19,733,711	—	43,632,487	19,381,989	—	82,748,187
A1	—	—	11,757,436	421,456	9,611,861	6,841,460	—	28,632,213
A2	—	—	37,683,860	1,806,292	49,374,022	105,414,194	—	194,278,368
A3	—	—	66,190,149	230,602	44,117,693	49,603,783	—	160,142,227
BAA1	—	—	74,689,235	1,303,890	22,541,993	38,011,938	—	136,547,056
BAA2	—	—	55,359,658	1,470,390	38,430,899	166,941,821	—	262,202,768
BAA3	—	—	99,884,952	1,631,999	18,272,907	785,625	—	120,575,483
BA1	—	—	50,122,949	35,045	26,835,759	—	—	76,993,753
BA2	—	—	63,516,841	18,184	10,265,165	—	—	73,800,190
BA3	—	—	62,710,886	52,707	20,219,787	—	—	82,983,380
B1	—	—	96,834,204	—	18,298,182	—	—	115,132,386
B2	—	—	75,087,848	—	30,935,953	—	—	106,023,801
B3	—	—	46,580,424	—	10,461,568	—	—	57,041,992
CAA1	—	—	31,391,305	—	10,370,020	—	—	41,761,325
CAA2	—	—	12,921,725	13,055	1,187,550	—	—	14,122,330
CAA3	—	—	—	1,354	—	—	—	1,354
CA	—	—	887,420	—	—	—	—	887,420
DEF	—	—	—	56,181	—	—	—	56,181
Not rates	—	—	47,066,390	21,854	7,885,769	—	7,495,419	62,469,432
	<u>\$ 22,416,591</u>	<u>222,438,939</u>	<u>864,304,416</u>	<u>28,215,237</u>	<u>374,723,613</u>	<u>821,612,252</u>	<u>9,370,072</u>	<u>2,343,081,120</u>
					U.S. treasury notes and bonds			384,056,356
					U.S. government agency - Government National Mortgage Association (GNMAs) mortgage backed			5,649,276
					Derivatives			\$ 2,732,786,752 74,302,683
					Total fixed income securities			\$ 2,807,089,435

Transition to new Risk Based Asset Class

In the last quarter of FY 2015, the fixed income mandate was transitioned to the new risk-based asset allocation methodology. All fixed income investment managers were retained as of June 30, 2015. Authorized security types are the same as the Asset-type based allocation guidelines. Investment managers were assigned to:

- Extended Global Credit component of the Broad Growth risk-based asset class, or
 - Benchmark: 50% BC Global Credit (Hedged) + 33.34% BC Global High Yield (Hedged) + 16.66% S&P LSTA Leveraged Loan
- Principal Protection risk-based asset class.
 - Benchmark: BC U.S. Intermediate Aggregate ex-Credit

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Summary of Concentration Limits for debt securities are:

- Principal protection managers may invest in specific Issue or Issuer of 5% (without limit in supranationals, U.S. Treasuries, U.S. agencies, CMOs and asset-backed securities with minimum of AAA rating, sovereign debt and equivalently rated agencies of Organisation for Economic Co-operation and Development (OECD) governments). These managers are limited to (i) 10% in emerging markets (local currency and debt); (ii) 10% in private placements; (iii) 10% in preferred stocks and converted common stocks (common stock holdings not to exceed 180 days); (iv) 10% in non-U.S. Agency CMOs; and (v) 10% of Non-U.S. Dollar denominated securities (excludes money market securities and money market futures).
- Extended Global Credit managers may invest in specific Issue or Issuer of 5% (without limit in supranationals, U.S. Treasuries, U.S. agencies, CMOs and asset-backed securities with minimum of AAA rating, sovereign debt and equivalently rated agencies of Organisation for Economic Co-operation and Development (OECD) governments). They are limited to: (i) 10% in preferred stocks and converted common stocks (common stock holdings not to exceed 180 days); (iii) 75% in non-investment grade / Unrated; (iv) in Non-Benchmark markets up to 40% of non-benchmark non-government supported and up to 40% of non-benchmark government supported. Foreign currency is limited to (i) a 40% net foreign currency exposure (as measured by net amount of currency's outstanding long and short positions versus the U.S. Dollar); and (ii) a 80% gross foreign currency exposure (as measured by absolute value of all country-level currency long and short currency positions versus the U.S. Dollar).

5. *Custodial Credit Risk*

Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the ERS will not be able to recover the value of the investment or collateral securities that are in the possession of an outside party. All securities, except certain pooled funds, are registered in the name of the ERS and are held in the possession of the ERS' custodial bank, The Bank of New York Mellon. Pooled funds not held by the custodial bank, such as certain equity investments, are registered in the name of the ERS. The ERS had \$49,220,483 in cash and securities exposed to custodial credit risk.

6. *Concentrations of Credit Risk*

The ERS' debt securities managers are expected to maintain diversified portfolios by sector, quality, and maturity as discussed above in Credit Risk.

Equity securities shall be diversified by industry and in number. An investment manager may not hold more than 5% of an individual company's stock if that company's securities represent less than 3% of the investment manager's respective benchmark. (If those securities constitute more than 3% of the respective benchmark, then the manager shall not hold more than the benchmark weight plus 2 percentage points.)

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At June 30, 2015, there was no single issuer exposure within the ERS' portfolio that comprises over 5% of the overall portfolio, or an investment that exceeded the above manager guidelines, and therefore, there is no concentration of credit risk to report.

7. Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The ERS has not adopted a formal policy that limits investment maturities as a means of managing its exposure to fair value changes arising from changing interest rates. External investment managers are given full discretion within their operational guidelines and are expected to maintain a diversified portfolio between and within sectors, quality, and maturity.

Duration is a measure of a debt investment's exposure to fair value changes arising from changes in interest rates. It uses the present value of cash flows, weighted for those cash flows as a percentage of the investment's full price. At June 30, 2015, the table below shows fixed income investment securities by investment type, amount, and the effective weighted duration for the ERS' total portfolio. Interest rate risk associated with swaps and other derivative instruments are discussed in the derivatives disclosure below:

Effective duration of fixed income assets by security type (excluding derivatives)

	<u>Fair value</u>	<u>Effective weighted duration (years)</u>
Fixed income securities:		
U.S. Treasury bonds and notes	\$ 384,056,356	7.4
U.S. government agencies bonds	22,416,591	1.7
U.S. government agency mortgage backed	5,649,276	2.9
U.S. government-sponsored agency		
mortgage backed	222,438,939	2.8
Commercial mortgage-backed securities	28,215,237	0.6
U.S. corporate bonds	864,304,416	6.1
Non-U.S. government/agency bonds	821,612,252	8.9
Non-U.S. corporate bonds	374,723,613	5.4
Pooled and others	<u>9,370,072</u>	4.8
Total	<u>\$ 2,732,786,752</u>	5.2

8. Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. The foreign currency risk exposure to the ERS arises from the international fixed income and international equity investment holdings. Board policy limits the use of foreign currency as a defensive measure to protect the portfolio value of non-U.S. equity and non-U.S. fixed income investments. External investment managers authorized to invest in

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these securities are given full discretion regarding their respective portfolio's foreign currency exposures, including using currency forward contracts, as established by their investment mandate. Cross-hedging is only allowed in non-U.S. fixed income portfolios. Counterparties for foreign currency derivatives must be rated A or equivalent. Derivatives investments are discussed in more detail in note F(10).

The following table summarizes the ERS' exposure to foreign currency risk in U.S. dollars as of June 30, 2015: (Securities denominated in U.S. dollars are not presented.)

	Cash and short-term instruments	Debt securities	Derivatives	Equities	Alternative	Real estate	Grand total
Argentine peso	\$ 3,116	—	—	—	—	—	3,116
Australian dollar	180,273	95,839,787	494,840	43,630,222	—	—	140,145,122
Brazilian real	145,989	7,747,917	(3,574)	69,515,948	—	—	77,406,280
Canadian dollar	36,210	10,506,038	358,143	66,366,141	—	—	77,266,532
Chilean peso	48,376	—	—	2,340,586	—	—	2,388,962
Colombian peso	3,937	—	—	—	—	—	3,937
Czech koruna	62,157	—	—	725,268	—	—	787,425
Danish krone	9,452	1,015,276	(22,621)	48,549,388	—	—	49,551,495
Egyptian pound	88,888	—	—	2,750,592	—	—	2,839,480
Euro	(6,853,686)	268,371,751	36,073,850	503,214,680	—	—	800,806,595
Hong Kong dollar	432,876	—	—	314,538,179	—	—	314,971,055
Hungarian forint	43,804	—	—	1,176,135	—	—	1,219,939
Indian rupee	—	—	33,204	—	—	—	33,204
Indonesian rupiah	166,693	—	—	17,292,250	—	—	17,458,943
Israeli shekel	—	—	—	6,494,091	—	—	6,494,091
Japanese yen	13,499,675	41,739,344	(20,407)	257,356,228	—	—	312,574,840
Malaysian ringgit	80,449	—	—	13,031,277	—	—	13,111,726
Mexican peso	609,477	5,473,541	358,424	24,785,147	—	—	31,226,589
New Taiwan dollar	11,012	—	—	99,267,576	—	—	99,278,588
New Turkish lira	8,615	—	—	11,517,187	—	—	11,525,802
New Zealand dollar	45,322	96,251,992	7,117,220	—	—	—	103,414,534
Norwegian krone	10	—	(4,599)	4,065,674	—	—	4,061,085
Philippine peso	8,037	1,866,267	—	2,041,851	—	—	3,916,155
Polish zloty	201,523	88,643,725	389,672	20,146,833	—	—	109,381,753
Pound sterling	4,232,170	205,298,496	(5,181,809)	322,607,422	—	—	526,956,279
Qatari riyal	48,248	—	—	3,236,770	—	—	3,285,018
Russian ruble (new)	79,212	—	—	10,906,513	—	—	10,985,725
Singapore dollar	398	—	(17,394)	27,222,800	—	—	27,205,804
South African rand	77,801	73,210,632	(534,336)	80,879,279	—	—	153,633,376
South Korean won	68,547	—	—	132,432,050	—	—	132,500,597
Swedish krona	186,403	6,520,519	(447,220)	12,880,649	—	—	19,140,351
Swiss franc	809	—	56	194,197,733	—	—	194,198,598
Thai baht	130,116	—	—	31,009,971	—	—	31,140,087
UAE dirham	96,920	—	—	743,717	—	—	840,637
Various countries	—	—	—	1,406,290,379	—	—	1,406,290,379
Total	\$ 13,752,829	902,485,285	38,593,449	3,731,212,536	—	—	4,686,044,099

9. Securities Lending

The ERS participates in a securities lending program administered by its bank custodian, The Bank of New York Mellon. Under this program, which is permissible under Chapter 88 of the HRS, certain equity and fixed-income securities of the ERS are lent to participating broker-dealers and banks (borrowers). In return, the ERS receives cash, securities issued or guaranteed by the U.S. government, securities issued or guaranteed by OECD (Organization for Economic Cooperation and Development) member states or their local authorities,

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Canadian Provincial debt, equity securities that are part of the U.S. and non-U.S. indices, and/or letters of credit as collateral. The ERS does not have the ability to pledge or sell collateral securities absent of borrower default. Risk is mitigated by the investment policies and operational procedures regarding issuer, credit, exposure and rating limits utilized in the securities lending program. Borrowers are required to deliver collateral for each loan equal to: (a) in the case of loaned fixed-income securities and loaned equity securities dominated in U.S. dollars or whose primary trading market was located in the United States, 102% of the market value of the loaned securities; and (b) in the case of loaned equity securities not denominated in U.S. dollars or whose primary trading market was not located in the United States, 105% of the market value of the loaned securities. The collateral is marked to market daily. If the market value of the collateral falls below the minimum collateral requirements, additional collateral is provided. In addition, the bank custodian indemnifies the ERS by agreeing to purchase replacement securities or return cash collateral in the event the borrower fails to return the loaned security or fails to pay the ERS for income distributions by the securities' issuers while the securities are on loan.

The ERS does not impose any restrictions on the amount of loans the bank custodian makes on behalf of the ERS. Also, the ERS and the borrowers maintains the right to terminate securities lending transactions on demand. The Bank of New York Mellon invests the cash collateral related to the ERS' loaned securities in a separate account, according to the ERS investment policies and procedures as discussed above in notes C(2) and F(1). As such, the maturities of the investments made with cash collateral generally do not match the maturities of the securities loans. The extent of such mismatch as of June 30, 2015 was 128 days.

At June 30, 2015, there was no credit risk exposure to borrowers since the ERS was collateralized as discussed above. The total securities on loan and collateral received are shown below.

Securities lent for collateral	Fair value of underlying securities	Collateral received	
		Cash	Noncash
U.S. fixed income	\$ 411,149,440	225,071,538	199,232,967
U.S. equities	1,258,747,667	967,664,196	347,944,183
International equities	259,871,110	40,083,201	247,553,514
International fixed income	51,673,834	—	55,319,489
	\$ 1,981,442,051	1,232,818,935	850,050,153

10. Derivative Financial Instruments

Derivatives are instruments (securities or contracts) whose value is dependent on such things as stock or bond prices, interest rate levels, or currency exchange rates. These are financial arrangements between two parties whose payments are based on or "derived" from the performance of some agreed-upon benchmark. As with any investment, derivative contracts are subject to various types of credit and market risks. Notably, these would include the

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possible inability of the counterparty to meet the terms of the contract, changes in the market value of the underlying collateral, changes in the interest rate environment, and fluctuation in foreign currency rates. The ERS enters into various derivative investment contracts to hedge, for the minimization of transaction costs and as a means of implementing value added strategies to enhance returns as authorized by Board policy.

Generally, derivatives are subject both to market risk and counterparty risk. The derivatives utilized by the ERS typically have no greater risk than their physical counterparts, and in many cases are offset by exposures elsewhere in the portfolio. Counterparty risk, the risk that the "other party" to a contract will default, is managed by utilization of exchange-traded futures and options where practicable (in which case the futures exchange is the counterparty and guarantees performance) and by careful screening of counterparties where use of exchange-traded products is impractical or uneconomical. ERS investment managers seek to control this risk through counterparty credit evaluations and approvals, counterparty credit limits, posting collateral, and exposure monitoring procedures. The ERS anticipates that counterparties will be able to satisfy their obligations under the contracts.

Derivative securities are priced and accounted for at their fair value. For exchange-traded securities such as futures and options, closing prices from the securities exchanges are used. Foreign exchange contracts are valued at the price at which the transaction could be settled by offset in the forwards markets.

The tables below summarize the ERS' investments in derivative securities and contracts held at June 30, 2015 and their associated risks. The various risks associated with these investments are included in the tables expressed in terms of market values, summarized by the type of contract as follows: credit, equity, foreign exchange, interest, and other. Due to the level of risk associated with certain derivative investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term, and such changes could affect the amounts reported in the financial statements. ERS could be exposed to risk if the counterparties to the contracts are unable to meet the terms of the contracts. ERS investment managers seek to control this risk through counterparty credit evaluations and approvals, counterparty credit limits, posting collaterals, and exposure monitoring procedures.

The notional amount is the nominal or the underlying face amount that is used to calculate payments made on that instrument or contract. Changes in the market value of all derivative contracts are recorded as net appreciation (depreciation) in fair value of investments in the Statement of Changes in Fiduciary Net Position.

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The following table summarizes the ERS' investments in derivative securities and contracts held at June 30, 2015 with the related maturity information:

Asset categories		Notional values	Market value	Maturity (Range from)
Forwards	Currency purchases	\$ —	(1,881,666)	0.0 yrs
	To be announced (TBAs)	—	72,311,288	14.9 yrs to 30.0 yrs
	Total forwards	—	70,429,622	
Futures	Interest rate contracts	10,672,102	—	0.2 yrs to 2.5 yrs
	Futures total	10,672,102	—	
Options	Options	—	(4,546,519)	0.0 yrs to 5.3 yrs
	Options on debt securities	—	(320,215)	0.0 yrs to 0.4 yrs
	Options on currency	—	161,161	0.0 yrs to 10.1 yrs
	Options total	—	(4,705,573)	
Swaps	Credit default swaps	—	91,441	5.0 yrs to 8.7 yrs
	Currency swaps	—	681,443	5.5 yrs to 10.5 yrs
	Inflation swaps	—	(3,015)	14.9 yrs to 29.9 yrs
	Interest rate swaps	—	1,541,741	1.8 yrs to 30.8 yrs
	Swaps total	—	2,311,610	
	Grand total	\$ 10,672,102	68,035,659	

Forward Currency Exchange Contracts and To-Be-Announced (TBA) Securities

The ERS enters into various forward currency exchange contracts to manage exposure to changes in foreign currency exchange rates and to facilitate the settlement of foreign security transactions. A forward contract is an agreement to buy or sell a specific amount of currency at a specific delivery or maturity date for an agreed-upon price. Risks associated with such contracts include movements in the value of the foreign currency relative to the U.S. dollar and the ability of the counterparty to perform in accordance with the terms of the contract.

The TBA market that ERS invests in as part of its toolkit to manage interest rates and liquidity includes the forward trading of mortgage-backed securities (MBS) issued by federal agencies and federally sponsored agencies (commonly known as pass-through securities issued by Freddie Mac, Fannie Mae, and Ginnie Mae). The TBA market is one of the most liquid, and consequently the most important secondary market for mortgage loans as one MBS pool can be considered to be interchangeable with another pool.

Futures

Futures represent commitments to purchase (asset) or sell (liability) securities at a future date and at a specified price. Futures contracts are traded on organized exchanges (exchange traded) thereby minimizing the ERS' credit risk. The net change in the futures contracts value is settled daily in cash with the exchanges. Net gains or losses arising from the daily settlements are included in the net appreciation in fair value of securities in the Statement of

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Changes in Net Position. At June 30, 2015, the net notional value of futures contracts was \$10,672,102.

Options

Options represent or give the buyers the right, but not the obligation, to buy or sell an asset at a preset price over a specified period. The option's price is usually a small percentage of the underlying asset's value. As a writer of financial options, the ERS receives a premium at the outset of the agreement and bears the risk of an unfavorable change in the price of the financial instrument underlying the option. As a purchaser of financial options, the ERS pays a premium at the outset of the agreement and the counterparty bears the risk of an unfavorable instrument underlying the option.

Swaps

Swaps represent an agreement between two or more parties to exchange sequences of cash flows over a period in the future. At June 30, 2015, the ERS had interest rate, credit default swaps, and total return swaps as allowed by Board policy. In the most common type of interest rate swap arrangement, one party agrees to pay fixed-interest payments on designated dates to a counterparty who, in turn, agrees to make return interest payments that float with some reference rate. Credit default swaps are the most common global credit market derivative that allows flexibility as an active portfolio management tool based on its ability to customize the exposure to corporate credit such as credit spreads and default risks. Total return swaps combine both market risk and credit risk in a single product as the holder also receives capital gains or losses. Credit default spreads and total return swaps are also used to gain access to global markets that do not have the transparency or efficiency of the U.S. credit markets. Gains and losses from swaps are determined on market values and are included in the net appreciation in fair value of securities in the Statement of Changes in Fiduciary Net Position.

Derivatives, such as interest rate swaps, total return swaps, and credit default swaps, are a tool or instrument used to manage interest rate, credit quality, and yield curve exposures of the investments. In certain situations, derivatives may result in a lower overall cost to the portfolio than owning individual securities underlying the derivatives. When evaluating securities, risk, and return are measured at the security and portfolio levels.

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June 30, 2015

On June 30, 2015, credit ratings of the counterparty for ERS' investments in derivatives were as follows:

	Derivatives Counterparty Credit Ratings – Moody's								Grand total
	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	N/A	
Bank of America Corp	\$ —	—	—	—	548,042	—	—	—	548,042
Barclays PLC	—	—	—	—	—	—	(207,575)	—	(207,575)
Citigroup Inc	—	(5,767)	—	—	(160,752)	—	—	—	(166,519)
CME Group Inc/IL	1,127,672	—	—	—	—	—	—	—	1,127,672
Credit Suisse Group AG	—	—	—	—	—	(25,526)	—	—	(25,526)
Deutsche Bank AG	—	—	—	(11,257)	—	—	—	—	(11,257)
Goldman Sachs Group Inc/The	—	—	—	(64,828)	—	—	—	—	(64,828)
Intercontinental Exchange Inc	—	—	573,780	—	—	—	—	—	573,780
JP Morgan Chase & Co	—	—	—	(329,575)	—	—	—	—	(329,575)
London Stock Exchange Group PLC	—	—	—	—	344,843	—	—	—	344,843
Morgan Stanley	—	—	—	1,965	—	—	—	—	1,965
Foreign Currency Forwards	—	—	—	—	—	—	—	(1,881,666)	(1,881,666)
Exchange Traded – Swaps, Options, and TBAs	—	—	—	—	—	—	—	68,126,303	68,126,303
Total	\$ 1,127,672	(5,767)	573,780	(403,695)	732,133	(25,526)	(207,575)	66,244,637	68,035,659

Note G – Net Pension Liability

1. Net Pension Liability

The components of the net pension liability of the ERS at June 30, 2015 were as follows:

Total pension liability	\$ 23,238,395,386
Plan fiduciary net position	<u>14,505,464,556</u>
Net pension liability	<u>\$ 8,732,930,830</u>

Plan fiduciary net position as a percentage of total pension liability	62.4%
Net pension liability as a percentage of covered payroll	218.6%

Multiyear trend information regarding whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits can be found in the required supplementary information following the *Notes to the Financial Statements*.

2. Summary of Actuarial Assumptions

The total pension liability was determined using the provisions of Government Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans – an amendment of GASB Statement No. 25*, and GASB Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73* actuarial valuation as of June 30, 2015. These GASB rules only define pension liability for financial reporting purposes. The actuarial assumptions were based on the results of an experience study for the period from July 1, 2005, through June 30, 2010. When measuring the total pension liability, GASB uses

**EMPLOYEES' RETIREMENT SYSTEM
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Notes to Financial Statements

June 30, 2015

the same actuarial-cost method, all actuarial assumptions, and the same discount rate as the ERS uses for funding which can be found in the *Notes to Required Supplementary Information*.

Summary of Actuarial Valuation as of June 30, 2015 follows:

Valuation date	June 30, 2015
Actuarial-cost method	Entry age normal
Amortization method	Level percent, open
Actuarial assumptions:	
Inflation assumption	3.00%
Investment rate of return, including inflation at 3.00%	7.65%
Payroll growth	3.50%
Projected salary increases, including inflation at 3.00%	
Police and fire employees	5.00% to 19.00%
General employees	4.00% to 8.00%
Teachers	4.50% to 8.50%
Cost-of-living adjustments (COLAs)	2.5%/1.5%
- COLAs are not compounded; and are based on original pension amounts.	

Mortality rate assumptions include the effects of the retirement status of members.

Postretirement Mortality rates are:

Healthy:	General Employees	Client specific table for males, 89% multiplier Client specific table for females, 89% multiplier
	Teachers	Client specific table for males, 65% multiplier Client specific table for females, 67% multiplier
	Police and Fire	1994 US Group Annuity Mortality Static Table for males, 85% multiplier 1994 US Group Annuity Mortality Static Table for females, 85% multiplier
Disabled:	General Employees	1994 US Group Annuity Mortality Static Table for males, set forward nine years 1994 US Group Annuity Mortality Static Table for females, set forward nine years
	Teachers	1994 US Group Annuity Mortality Static Table for males, set forward five years 1994 US Group Annuity Mortality Static Table for females, set forward six years
	Police and Fire	1994 US Group Annuity Mortality Static Table for males, set forward three years 1994 US Group Annuity Mortality Static Table for females, set forward three years

**EMPLOYEES' RETIREMENT SYSTEM
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Notes to Financial Statements

June 30, 2015

Preretirement mortality rates are:

For males, multiples of a custom table that has RP-2000 Male Employee rates for age 1 to 70 and RP-2000 Combined Male Rates for ages over 70.

For females, multiples of a custom table that has RP-2000 Female Employee rates for age 1 to 70 and RP-2000 Combined Female Rates for ages over 70.

The following factors are used in conjunction with the described above to derive the death rates:

Type	General employees		Teachers		Police and Fire	
	Males	Females	Males	Females	Males	Females
Ordinary	64%	48%	50%	40%	15%	15%
Accidental						
(Service related)	16%	12%	10%	5%	35%	35%

The long-term expected arithmetic rate of returns on pension plan investments based on ERS' investment consultant, Pension Consulting Alliance, Inc.'s 2015 capital market projections for the target-asset allocation as of June 30, 2015, are summarized in the following table:

Asset class	Long-term expected arithmetic rate of return
Domestic equity	8.50%
International equity	9.25%
Total fixed income	3.10%
Real estate	9.20%
Private equity	11.85%
Real return	6.65%
Covered calls	7.65%

Single Discount Rate

A single discount rate of 7.65% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.65%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on

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

Notes to Financial Statements

June 30, 2015

pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

3. Sensitivity of the Net Pension Liability to Changes in the Single Discount Rate

The following presents the ERS' net pension liability calculated using a single discount rate of 7.65%, as well as what the ERS' net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower (6.65%) or 1-percentage-point higher (8.65%) than the current rate.

	1% Decrease (6.65%)	Current Discount Rate (7.65%)	1% Increase (8.65%)
\$	11,056,770,369	8,732,930,830	6,409,091,292

Note H – Risk Management

The ERS is exposed to various risks of loss related to torts; theft of, damage to, or destruction of assets; errors or omissions; natural disasters; and injuries to employees. As required by state law, the ERS participates in coverage with the State. The State retains various risks and insures certain excess layers with commercial insurance policies. The excess layers are consistent with the prior fiscal year. Settled claims for the State did not exceed the coverage provided by commercial insurance policies during the year ended June 30, 2015. Losses not covered by insurance are generally paid from legislative appropriations.

1. Torts

The ERS is involved in various litigation and claims, including claims regarding retirement benefits, the outcome of which cannot be presently determined. In the opinion of management, the outcome of these actions will not have a material adverse effect on the ERS' financial position.

2. Property and Liability Insurance

The ERS also purchased property and liability insurance for all real estate owned from outside carriers. During the past three fiscal years, no loss settlements exceeded insurance coverages.

3. Workers' Compensation Policy

The State has a self-insured workers' compensation policy. Workers' compensation claims are paid from legislative appropriations.

**EMPLOYEES' RETIREMENT SYSTEM
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Notes to Financial Statements

June 30, 2015

Note I – Commitments

In the normal course of business, the ERS enters into commitments with associated risks. The ERS adheres to the same credit policies, financial and administrative controls, and risk limiting and monitoring procedures for these commitments as for all investments.

The ERS has future financial commitments of up to \$651,000,000 as of June 30, 2015, consisting of \$102,000,000 in real estate investments, and \$549,000,000 in alternative investments.

Note J – Deferred Compensation Plan

The ERS does not sponsor a deferred compensation program. The ERS' employees are eligible to participate in the deferred compensation plan sponsored by the State. The State-sponsored plan was created in accordance with Internal Revenue Code Section 457. The plan, available to all ERS employees, permits them to defer a portion of their salaries. The deferred compensation is not available to the employees until termination, retirement, death, or an unforeseeable emergency. All compensation deferred under the plan is held in trust by a custodian for the exclusive benefit of participants and beneficiaries.

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

Required Supplementary Information – Unaudited

June 30, 2015

Schedule of Changes in the Employers' Net Pension Liability and Related Ratios

	2014	2015
A. Total pension liability		
1. Service Cost	\$ 421,956,129	437,901,029
2. Interest on the Total Pension Liability	1,618,917,776	1,693,252,684
3. Changes of benefit terms	-	-
4. Difference between expected and actual experience of the Total Pension Liability	66,400,876	(192,816,757)
5. Changes of assumptions	-	261,213,541
6. Benefit payments, including refunds of employee contributions	<u>(1,130,921,611)</u>	<u>(1,181,252,658)</u>
7. Net change in total pension liability	976,353,170	1,018,297,839
8. Total pension liability – beginning	<u>21,243,744,377</u>	<u>22,220,097,547</u>
9. Total pension liability – ending	<u>\$ 22,220,097,547</u>	<u>23,238,395,386</u>
B. Plan fiduciary net position		
1. Contributions – employer	\$ 653,127,697	717,792,981
2. Contributions – picked-up employee contributions	204,821,010	221,909,859
3. Contributions – employee	1,306,327	1,595,560
4. Net investment income	2,175,479,961	556,436,475
5. Benefit payments, including refunds of employee contributions	<u>(1,130,921,611)</u>	<u>(1,181,252,658)</u>
6. Pension Plan Administrative Expense	(12,626,030)	(14,032,964)
7. Other	-	-
8. Net change in plan fiduciary net position	1,891,187,354	302,449,253
9. Fiduciary net position – beginning	<u>12,311,827,949</u>	<u>14,203,015,303</u>
10. Fiduciary net position – ending	<u>14,203,015,303</u>	<u>14,505,464,556</u>
C. Net pension liability	<u>\$ 8,017,082,244</u>	<u>8,732,930,830</u>
D. Fiduciary net position as a percentage of the total pension liability	63.92%	62.42%
E. Covered-employee payroll	\$ 3,829,002,983	3,995,447,345
F. Net pension liability as a percentage of covered employee payroll	209.38%	218.57%

* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

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

Required Supplementary Information – Unaudited

June 30, 2015

Schedule of the Employers' Net Pension Liability

Fiscal year ended June 30	Total pension liability	Fiduciary net position	Net pension liability	Fiduciary net position as a % of total	Covered payroll	Net pension liability as a percentage of covered payroll
2013	\$ 21,243,744,377	\$ 12,311,827,949	\$ 8,931,916,428	57.96%	\$ 3,720,809,962	240.05%
2014	\$ 22,220,097,547	\$ 14,203,015,303	\$ 8,017,082,244	63.92%	\$ 3,829,002,983	209.38%
2015	\$ 23,238,395,386	\$ 14,505,464,556	\$ 8,732,930,830	62.42%	\$ 3,995,447,345	218.57%

* Schedule is intended to show information for 10 years. Additional years will be built prospectively as data becomes available.

Schedule of Employer Contributions
(Amounts in thousands)

Fiscal year ended June 30	Statutory contributions	Covered employee payroll	Contributions as a percentage of covered payroll
2006	\$ 423,446	\$ 3,113,737	13.6%
2007	454,494	3,340,488	13.6%
2008	488,770	3,601,722	13.6%
2009	578,672	3,838,000	15.1%
2010	547,670	3,713,593	14.7%
2011	538,692	3,731,383	14.4%
2012	548,353	3,706,137	14.8%
2013	581,447	3,720,810	15.6%
2014	653,128	3,829,003	17.1%
2015	717,793	3,995,447	18.0%

Note: All contributions shown reflect statutory employer-paid contributions only. Member contributions are excluded. Information provided by Gabriel, Roeder Smith and Company, the ERS' actuary.

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

Required Supplementary Information – Unaudited

June 30, 2015

Schedule of Investment Returns

For fiscal year ended June 30:	Annual money- weighted rate of return
2014	17.9%
2015	4.0%

* Schedule is intended to show information for 10 years. Additional years will be built prospectively as data becomes available.

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

Notes to Required Supplementary Information – Unaudited

June 30, 2015

Note A – Description

There have been no changes in benefit terms since the last valuation.

The actuarial investment return assumption was decreased from 7.75% as of June 30, 2014 to 7.65% as of June 30, 2015.

Methods and Assumptions Used in Calculations of Actuarially Determined Contributions

The actuarially determined contribution rates in the schedule of contributions are calculated as of June 30, 2015. The following significant actuarial methods and assumptions were used to determine contribution rates reported in that schedule. Please refer to the Actuarial Section in the ERS CAFR for additional information on actuarial assumptions.

Valuation date	June 30, 2014
Actuarial-cost method	Entry age normal
Amortization method	Level percent, open
Asset-valuation method	4-year smoothed market
Assumed inflation rate	3.0%
Investment rate of return	7.65% (including 3.0% for inflation and a 4.65% net real rate of return)
Cost-of-living adjustments (COLAs)	
COLAs are not compounded; they are based on original pension amount.	
- Membership date prior to July 1, 2012	2.5% (not compounded)
- Membership date after June 30, 2012	1.5% (not compounded)
Payroll growth rate assumption	3.50%

Projected salary increases comprise of the following components:

	General employees	Teachers	Police and fire
Service component by year of credited service (a)	0.0% to 4.0%	0.0% to 4.0%	0.0% to 14.0%
General increase (b)	1.0%	1.5%	2.0%
Inflation (c)	3.0%	3.0%	3.0%
Total increase (a + b + c)	<u>4.0% to 8.0%</u>	<u>4.5% to 8.5%</u>	<u>5.0% to 19.0%</u>

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

Notes to Required Supplementary Information – Unaudited

June 30, 2015

Detailed salary increase rates by years of service are shown below:

Years of service	General employees		Teachers	
	Service - related component (a)	Total annual rate of increase (a + b + c)	Service - related component (a)	Total annual rate of increase (a + b + c)
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%

Years of service	Police and fire	
	Service - related component (a)	Total annual rate of increase (a + b + c)
0	14.00%	19.00%
1	12.00%	17.00%
2 or more	0.00%	5.00%

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

Notes to Required Supplementary Information – Unaudited

June 30, 2015

Mortality rates used in the valuation are:

Postretirement mortality rates:

Healthy:	General Employees	Client specific table for males, 89% multiplier Client specific table for females, 89% multiplier
	Teachers	Client specific Table for males, 65% multiplier Client specific Table for females, 67% multiplier
	Police and Fire	1994 US Group Annuity Mortality Static Table for males, 85% multiplier 1994 US Group Annuity Mortality Static Table for females, 85% multiplier
Disabled:	General Employees	1994 US Group Annuity Mortality Static Table for males, set forward nine years 1994 US Group Annuity Mortality Static Table for females, set forward nine years
	Teachers	1994 US Group Annuity Mortality Static Table for males, set forward five years 1994 US Group Annuity Mortality Static Table for females, set forward six years
	Police and Fire	1994 US Group Annuity Mortality Static Table for males, set forward three years 1994 US Group Annuity Mortality Static Table for females, set forward three years

Preretirement mortality rates:

For males, multiples of a custom table that has RP-2000 Male Employee rates for age 1 to 70 and RP-2000 Combined Male Rates for ages over 70.

For females, multiples of a custom table that has RP-2000 Female Employee rates for age 1 to 70 and RP-2000 Combined Female Rates for ages over 70.

The following factors are used in conjunction with the described above to derive the death rates:

Type	General employees		Teachers		Police and fire	
	Males	Females	Males	Females	Males	Females
Ordinary	64%	48%	50%	40%	15%	15%
Accidental (Service related)	16%	12%	10%	5%	35%	35%

Change of Assumptions

The investment rate of return assumption was decreased from 7.75% as of June 30, 2014 to 7.65 % as of June 30, 2015.

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

Notes to Required Supplementary Information – Unaudited

June 30, 2015

Note B – Significant Factors Affecting Trends in Actuarial Information

There have been no significant changes in Plan Provisions since 2011.

2011 Changes in Plan Provisions Since 2010

The following changes were made to the actuarial assumptions:

- The investment rate of return assumption decreased from 8.00% to 7.75%.
- The salary increase rates were changed to reflect a larger productivity component for Police and Fire. Small changes also made to service-based components for all groups. The overall impact increased assumed salary increase rates for all employees.
- The rates of mortality for healthy retirees and beneficiaries for most employee groups were decreased.
- The rates of mortality for disabled retirees for most employee groups were increased.
- The rates of mortality for active employees for most employee groups were increased.
- The rates of disability for active employees for most general employees and teachers were decreased.
- The rates of retirement for most employees were increased.
- The rates of termination in the first six years of service for males generally increased, and remained mostly unchanged for females. After six years of service, the rates of termination generally increased for younger employees and decreased for employees from the age of 50.

Schedule 1

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

Supplementary Information – Combining Schedule of Changes in Fiduciary Net Position – All Trust Funds

Year ended June 30, 2015

	Pension Accumulation Fund	Annuity Savings Fund	Expense Fund	Total
Additions:				
Appropriations and contributions:				
Employers	\$ 717,792,981	—	—	717,792,981
Members	—	223,505,419	—	223,505,419
Net investment gain	556,436,475	—	—	556,436,475
Total additions	<u>1,274,229,456</u>	<u>223,505,419</u>	<u>—</u>	<u>1,497,734,875</u>
Deductions:				
Benefit payments	1,170,744,770	—	—	1,170,744,770
Refunds of member contributions	—	10,507,888	—	10,507,888
Administrative expenses	—	—	14,032,964	14,032,964
Total deductions	<u>1,170,744,770</u>	<u>10,507,888</u>	<u>14,032,964</u>	<u>1,195,285,622</u>
Other changes in net position restricted for pension benefits:				
Transfer due to retirement of members	126,857,976	(126,857,976)	—	—
Transfer of interest allocation	(100,217,487)	100,217,487	—	—
Transfer to pay administrative expenses	(11,799,484)	—	11,799,484	—
Return of unrequited funds due to savings in administrative expenses	—	—	—	—
Net increase (decrease)	<u>14,841,005</u>	<u>(26,640,489)</u>	<u>11,799,484</u>	<u>—</u>
Net increase (decrease)	<u>118,325,691</u>	<u>186,357,042</u>	<u>(2,233,480)</u>	<u>302,449,253</u>
Fiduciary net position restricted for pensions:				
Beginning of year	<u>12,083,141,971</u>	<u>2,107,182,628</u>	<u>12,690,704</u>	<u>14,203,015,303</u>
End of year	<u>\$ 12,201,467,662</u>	<u>2,293,539,670</u>	<u>10,457,224</u>	<u>14,505,464,556</u>

See accompanying independent auditors' report.

Schedule 2**EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF HAWAII**Supplementary Information – Social Security Contribution Fund
Statement of Changes in Assets and Liabilities

Year ended June 30, 2015

Assets	Beginning balance	Additions	Deductions	Ending balance
Receivable from employers	\$ _____	219,661,553	219,661,553	_____
Total assets	\$ <u> </u> <u> </u>	<u> </u> <u>219,661,553</u>	<u> </u> <u>219,661,553</u>	<u> </u> <u> </u>
Liabilities				
Due to employers	\$ _____	219,661,553	219,661,553	_____
Total liabilities	\$ <u> </u> <u> </u>	<u> </u> <u>219,661,553</u>	<u> </u> <u>219,661,553</u>	<u> </u> <u> </u>

See accompanying independent auditors' report.

Schedule 3

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

Supplementary Information – Schedule of Administrative Expenses

Year ended June 30, 2015

Personnel services:	
Salaries and wages	\$ 5,361,833
Fringe benefits	2,504,812
Net change in unused vacation credits	145,712
	<hr/>
Total personnel services	8,012,357
Professional services:	
Actuarial	103,500
Auditing and tax consulting	476,145
Disability hearing expenses	47,120
Legal services	536,357
Medical	327,625
Other services	510,080
	<hr/>
Total professional services	2,000,827
Communication:	
Postage	109,206
Printing and binding	117,300
Telephone	93,890
Travel	82,732
	<hr/>
Total communication	403,128
Rentals:	
Rental of equipment	85,827
Rental of premises	17,032
	<hr/>
Total rentals	102,859
Other:	
Armored car service	6,706
Computer and office automation systems	39,375
Repairs and maintenance	1,245,563
Stationery and office supplies	23,248
Miscellaneous	63,458
	<hr/>
Total other	1,378,350
Depreciation	<hr/>
	2,135,443
	<hr/>
	\$ 14,032,964

See accompanying independent auditors' report.

Schedule 4**EMPLOYEES' RETIREMENT SYSTEM
OF THE STATE OF HAWAII**

Supplementary Information – Schedule of Investment Expenses

Year ended June 30, 2015

Real estate and alternative investment expenses:

Operating expenses	\$ 43,362,259
Mortgage interest	<u>9,157,266</u>
	<u>52,519,525</u>

Investment expenses:

Investment manager/advisor fees	43,257,089
Bank custodian fees	407,909
Other investment expenses	<u>1,179,761</u>
	<u>44,844,759</u>

Securities lending expenses:

Borrower rebates	(953,732)
Management fees	<u>762,151</u>
	<u>(191,581)</u>
	<u>\$ 97,172,703</u>

See accompanying independent auditors' report.