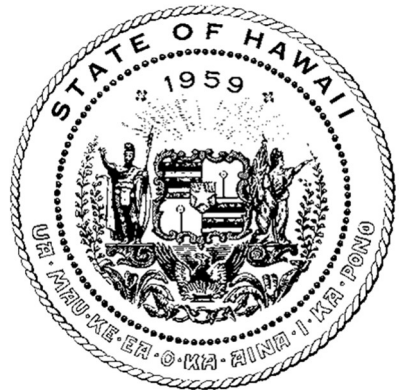


**EMPLOYEES'
RETIREMENT SYSTEM
OF THE
STATE OF HAWAII**



**ANNUAL
COMPREHENSIVE
FINANCIAL REPORT
FOR THE FISCAL YEAR ENDED JUNE 30, 2024**

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

**ANNUAL
COMPREHENSIVE
FINANCIAL REPORT**

FOR THE FISCAL YEAR ENDED JUNE 30, 2024

Prepared by the Staff of the:
Employees' Retirement System of the State of Hawaii
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Honolulu, Hawaii 96813
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THOMAS WILLIAMS, Executive Director
GAIL STROHL, Deputy Executive Director
KRISTIN VARELA, Chief Investment Officer

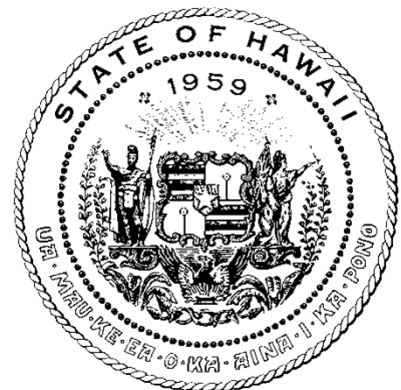


Table of Contents

INTRODUCTORY SECTION

Letter of Transmittal	5
Board of Trustees	9
Organizational Structure	10
Plan Summary	11
Summary of Retirement Benefit Plan	
Provisions	12
Retirement Options	24
Legislative Highlights 2024	26

FINANCIAL SECTION

Independent Auditors' Report	29
Management's Discussion and Analysis (Unaudited)	32
Financial Statements	
Statement of Fiduciary Net Position	40
Statement of Changes in Fiduciary Net Position	41
Notes to Financial Statements	42
Required Supplementary Information (Unaudited)	
Schedule of Changes in the Employers' Net Pension Liability and Related Ratios	83
Schedule of Employers' Net Pension Liability	84
Schedule of Investment Returns	85
Notes to Required Supplementary Information - Unaudited	86
Supplementary Information	
Schedule 1 – Combining Schedule of Changes in Fiduciary Net Position – All Trust Funds	89
Schedule 2 – Schedule of Administrative Expenses	90
Schedule 3 – Schedule of Investment Expenses	91
Other Information	
Schedule 4 - Social Security Contribution Fund, Statement of Changes in Assets and Liabilities	92

INVESTMENT SECTION

Letter from Chief Investment Officer	94
Letter from Investment Consultant	97
Report on Investment Activity by Investment Consultant	
Outline of Investment Policies	103
Investment Results as of June 30, 2024	106
Investment Professionals	109
List of Assets Directly Held (by fair value)	112
Investments Summary	113
Schedule of Investment Fees	114
Schedule of Broker Commissions	115

ACTUARIAL SECTION

GASB Statement No. 67 Report from GRS	122
<u>Summary of 2024 Actuarial Valuation</u>	
Letter from the Actuary (Valuation)	127
Executive Summary (Valuation)	133
Actuarial Certification Statement	134
Assessment and Risk Disclosure	136
Exhibit 1 – Development of Employer Cost	141
Exhibit 2 – Actuarial Present Value of Future Benefits	142
Exhibit 3 – Analysis of Normal Cost	143
Exhibit 4 – Development of Actuarial Value of Assets	144
Exhibit 5 – Total Experience Gain or Loss	145
Exhibit 6 – Investment Experience Gain or Loss	146
Exhibit 7 – Projection Results Based on the June 30, 2024 Actuarial Valuation	147
Exhibit 8 – Highlights of Last Five Annual Actuarial Valuations	148
Summary of Actuarial Methods and Assumptions	149
Summary of Plan Changes	163
Ten Year Actuarial Schedules, 2015 to 2024	
Retirement System Membership	168
2024 Membership Data	169
Historical Summary of Active Member Data	170
Pensioners, Average Annual Pension, and Active Member/Pensioner Comparison	171
Number of Retirants and Beneficiaries	171
Solvency Test	172
Employer Contribution Rates as a Percentage of Payroll	173
Employer Appropriations to Pension Accumulation Fund	
Fiscal Years 2015 to 2024	174
Aggregated Funded Ratios for States	175

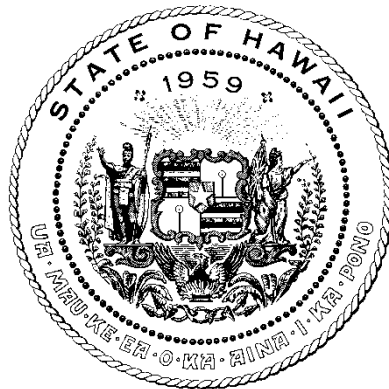
STATISTICAL SECTION

Summary	
Changes in Fiduciary Net Position	178
Contributions	179
Deductions from Fiduciary Net Position for Benefit Payments by Type	180
Participating Employers and Membership in ERS	181
Benefit Payments by Retirement Type and Option	182
Average Monthly Service Pension by Year of Credited Services	183
Retirees and Beneficiaries – Tabulated by Fiscal Year of Retirement	184
Total Benefits Payable – Tabulated by Attained Ages of Benefit Recipients	185



Employees' Retirement System

of the State of Hawaii



**INTRODUCTORY
SECTION**

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*Letter of Transmittal*JOSH GREEN, M.D.
GOVERNORSYLVIA LUKE
LIEUTENANT GOVERNORTHOMAS WILLIAMS
EXECUTIVE DIRECTORGAIL STROHL
DEPUTY EXECUTIVE DIRECTOR**STATE OF HAWAII**
EMPLOYEES' RETIREMENT SYSTEM

September 15, 2025

Board of Trustees
Employees' Retirement System of the State of Hawaii

Dear Board Members:

We present the Annual Comprehensive Financial Report (ACFR) of the Employees' Retirement System for the fiscal year ended June 30, 2024. Responsibility for both the accuracy of the data, as well as the completeness and fairness of the presentation, rests with the management of the ERS. We trust that you and the members of the ERS will find this report useful in understanding your retirement system.

BACKGROUND

The ERS was established by the Legislature in 1925 to administer a retirement, disability, and survivor benefits program for State and county employees including teachers, professors, police officers, firefighters, judiciary employees, judges, and elected officials. The ERS is a qualified defined benefit public pension plan covered under Section 401(a) of the Internal Revenue Code. Hawaii Revised Statutes Chapter 88 and Hawaii Administrative Rules Title 6, Chapters 20 – 29 contain the language governing the pension trust. The ERS covers all eligible full-time and part-time State and county employees in the State of Hawaii. The ERS uses the entry age normal funding method to determine its current and future costs and appropriateness of its funding requirements. Funding for benefit payments comes from employer and member contributions, and investments.

Members of the Pension Trust belong to either the Contributory, Hybrid (a contributory class), or Noncontributory Class. Contributory and Hybrid Members make employee contributions to the Pension Trust and employers make contributions for employees of all three classes. Since 2006 most new employees of participating employers in the Pension Trust are required to join the Hybrid Class, except for certain employee groups that are required to be members of the Contributory Class. New benefit structures were established in 2011 for new members hired after June 30, 2012.

On March 31, 2024, the ERS' total membership of 158,560 was comprised of 65,337 active members, 55,820 retirees and beneficiaries 8,847 inactive vested members and 28,556 inactive non-vested members. This compares to 130,004 under historical methodology used in the actuarial valuation that excludes inactive non-vested members. Participating employers include the State of Hawaii, City and County of Honolulu, and the counties of Hawaii, Maui, and Kauai.

Employees' Retirement System
of the State of Hawaii

City Financial Tower • 201 Merchant Street, Suite 1400 • Honolulu, Hawaii 96813-2980
Telephone (808) 586-1735 • Fax (808) 586-1677 • <https://ers.ehawaii.gov>

Letter of Transmittal (continued)

The ERS provides a report of the Social Security Contribution Fund for the State of Hawaii (Contribution Fund) as part of Other Information. The Social Security contributions (employer and amounts withheld from employees) are remitted directly to the Internal Revenue Service (IRS) by the State.

MAJOR ACCOMPLISHMENTS AND INITIATIVES IN FY 2024

During FY 2024 the ERS with our board, staff and other stakeholders continued to strive for excellence in working to accomplish ERS's strategic plan long-term goals that guides our every activity—from customer service to cyber-security and business continuity, to legislation and investments. While fiscal year 2024 was a challenging time during the broader investment market turmoil with volatility and inflation, the ERS continues to make progress on our long term financial and operational goals with assistance from processes and procedures put in place, and more importantly with cooperation and assistance from our partners – our members, employers, board of trustees, employees, and other stakeholders.

During FY 2024 the Employees' Retirement System portfolio earned a 7.2% investment returns, with the fiduciary net position increasing to \$23.7 billion as of June 30, 2024. As a long-term investor, the multi-year numbers, reflect continued progress in our plans to become fully funded with our ERS achieving investment returns in excess of the ERS 7% percent annualized long-term Policy Benchmark return target over the past 5 year period, with annualized returns of 7.6%.

The ERS utilizes two high-level strategic classes (Broad Growth and Diversifying Strategies) for allocating assets and managing risk within the total portfolio. Both of these strategic classes contain sub-components that in-turn utilize asset classes and/or specific strategies for implementation. As a result of the 2023 Asset-Liability Study, the strategic class framework incorporated new naming conventions and improved definitions of sub-asset classes to better align with the ERS risk allocation and restructured certain invested opportunities to better align with their characteristics. These revisions became effective during the 2024 fiscal year on January 1, 2024. The Broad Growth class utilizes three sub-components (Global Equity, Global Credit, and Real Assets) which are ultimately invested in in public and private equity, and private credit, real estate, agriculture, timber, and infrastructure. The Diversifying Strategies class is designed to be uncorrelated to the Broad Growth class and it utilizes two sub-components (Liquid Defensive/Diversifying and Illiquid Diversifying). The Diversifying Strategies class utilizes a multitude of asset classes and strategies, including US treasury and agency bonds, inflation-linked treasury bonds, systematic trend following, alternative risk premia, global macro, insurance-linked securities, relative value strategies, and niche private assets, among others. The ERS may also hold opportunities and other investments if they are determined to be additive to the portfolio's risk/return posture. Please refer to the *Investment Section* for more information on ERS's investments.

While our Investment Team deserves and receives a good amount of recognition for generating positive investment returns, year in and out, it's our Retirement Benefits, Accounting, Information Services and Staff Support Services branches that serve as the structural foundation for our organization and are responsible for overall service delivery. Our successful operations depend on these units, which interface with many of our members, and represent the invisible players who work behind the scenes.

Letter of Transmittal (continued)

Our members' need for service has never been greater. We respond to ever increasing numbers of requests for information, counsel, estimates and retirement applications. We have been working intently with employers to improve the accuracy and timeliness of information submittal necessary to calculate and pay benefits.

There was no significant legislative actions or pension benefit changes passed in 2024 Legislative Session that impacts the ERS pension trust. However, Act 192, SLH 2024, was passed to decrease the maximum funding period to amortize the pension trust's unfunded accrued liability from 30 years to 25 years effective June 30, 2024. In addition, the maximum funding period will decrease by 1 each year in the future until the maximum funding period reaches 20 years effective June 30, 2029, at which point it will continue to be 20 years for all future years.

We want to thank our participating employers – the Governor, State Legislature, and County employers – for their continued support and funding of employer contributions, that in combination with ERS's risk-based investment allocation strategy initiated in FY 2014, is helping us continue progress to achieve our funding and operational goals on our path to full funding.

ACCOUNTING SYSTEM AND REPORTS

The accrual basis of accounting is used to record financial transactions. Expenses are recorded when the liability is incurred, and revenues are recorded in the accounting period in which they are earned and become measurable. Interest earned is accrued on a monthly basis. Accounts receivable at year end, in addition to accrued interest receivable, reflect accrued employer charges and investment proceeds due on sales that have not yet settled. Investments are recorded at fair value. Capital assets are recorded at cost less accumulated depreciation.

The *Management Discussion and Analysis* (MD&A) in the Financial Section provides an overview and analysis on the ERS and financial statements. This letter of transmittal is intended to complement the MD&A and should be read in conjunction with it. The *Notes to the Financial Statements* (Notes) contain additional detailed information on the statutory provisions under which the ERS operates. In addition, the Notes include a summary of significant accounting policies, and provide explanatory information to help readers better understand the data contained in the financial statements.

The management of the ERS is responsible for and has implemented systems of internal accounting controls designed to provide reasonable assurances for the safeguarding of assets and the reliability of financial records. We believe that the internal accounting controls currently in place are adequate to meet the purpose for which they were intended. To the best of our knowledge and belief, the enclosed data, including the financial statements, supporting schedules and statistical tables is accurate in all material respects and is reported in a manner that fairly presents the financial position and results of the ERS' operations.

INVESTMENTS

The primary goal of the ERS investment strategy is the preservation of capital. The Board of Trustees seeks preservation of capital with a consistent, positive return for the investment portfolio. As discussed above, ERS updated the risk-based, functional framework for allocating capital within the investment portfolio, that was first implemented in FY2014. A summary of the ERS' long-term asset allocation strategy for the fiscal year may be found in the Investment Section of this report. The full Investment Policies, Guidelines, and Procedures Manual is available on the ERS website at <https://ers.ehawaii.gov/>.

Letter of Transmittal (continued)

Professional investment managers have been retained to execute the Board's investment strategies and have full discretion within statutory provisions, Board policies and their respective guidelines. The investment managers retained by the Board as of June 30, 2024 are listed in the Investment Section.

Net investment income, including dividends, interest, other investment earnings, and gains/losses on the sale of investments resulted in a gain of \$1,459 million in a challenging FY2024. This translates to an investment return of approximately 7.2% for the year, using rate of return methodologies that are generally accepted by the Global Investment Performance Standards (GIPS).

FUNDING AND ACTUARIAL OVERVIEW

As of June 30, 2024 report of the Fund's valuation our actuaries, Gabriel Roeder Smith & Company noted that that our unfunded actuarial accrued liability (UAAL) for funding purposes increased to \$14.0 billion on June 30, 2024 from \$13.7 billion on June 30, 2023 based on the pre-2015 GASB reporting standards. Under the current market-based GASB standards effective in FY 2015, the Net Pension Liability increased to \$14.1 billion on June 30, 2024 from \$13.8 billion on June 30, 2023. On the market basis, this represents an increase in funded position to 62.6% for FY 2024 from 61.9% for FY 2023. The ERS full funding period decreased to 22 years as of June 30, 2024 from 23 years as of June 30, 2023, primarily from the an increase in the active membership counts, which increased contributions received on covered payroll and to a lesser extent the recognition of deferred investment gains from FY 2021 under the 4-year smoothing methodology used by ERS.

PROFESSIONAL SERVICES

Professional consultants are appointed by the Board of Trustees to perform professional services that are essential to the effective and efficient operation of the ERS. Opinions from KKDLY LLC, the auditors for the ERS, and the actuary, Gabriel, Roeder, Smith & Company, are included in this report. Meketa Group is the ERS' investment consultant, and their report on the ERS' investment program and performance results are also included in this report.

ACKNOWLEDGEMENTS

This report is from the collaborative efforts of the ERS staff and consultants to provide extensive and reliable information as a basis for making management decisions, determining compliance with legal provisions, and for determining responsible stewardship of the assets contributed by the ERS' members and their employers. This report will be provided to the Governor, legislators, State and county departments and other interested parties.

Aloha,

Thomas Williams

Thomas Williams
Executive Director

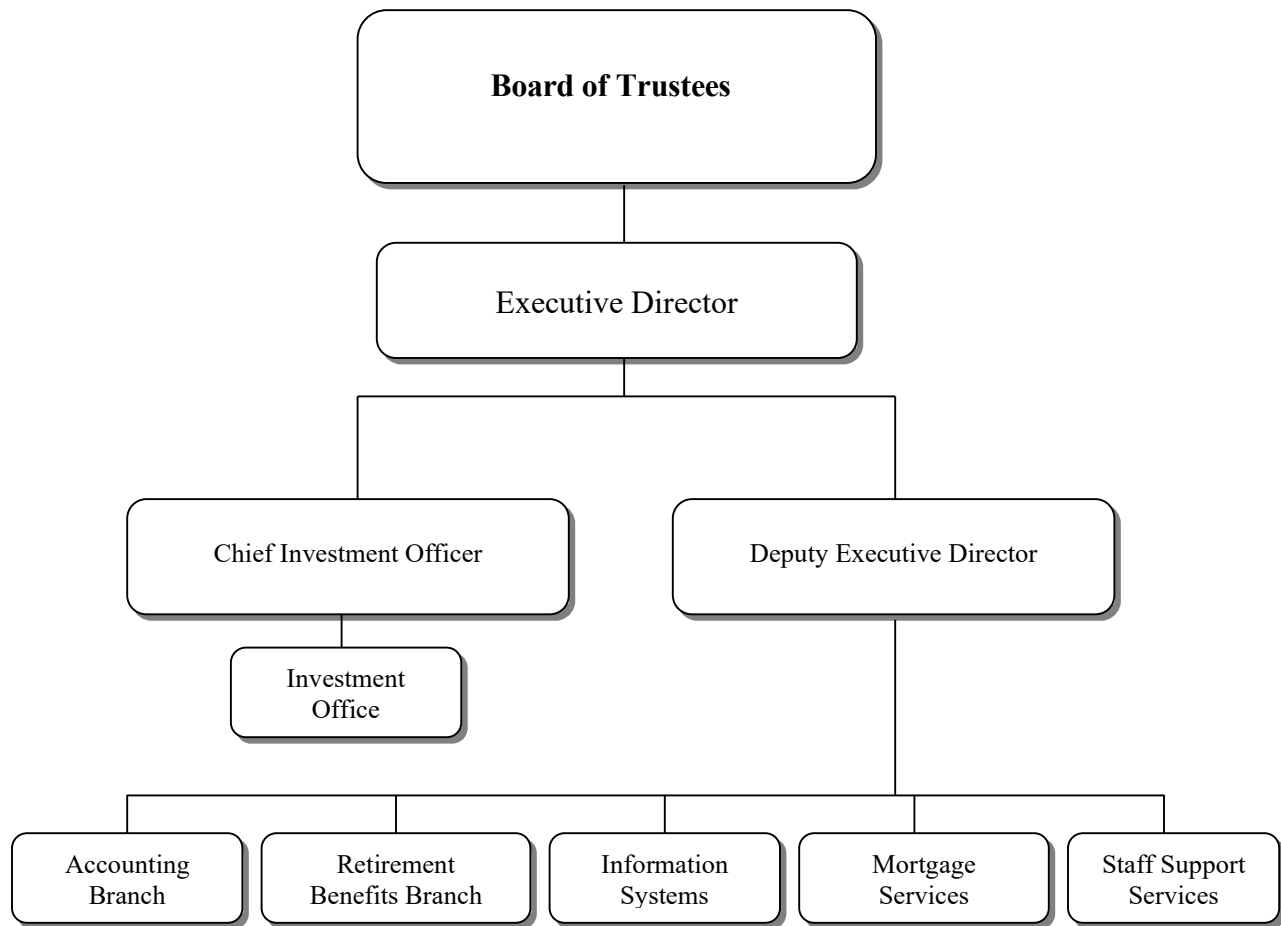
Board of Trustees

The Board of Trustees is the governing body of the Employees' Retirement System of the State of Hawaii, with certain areas of administrative control vested in the State Department of Budget and Finance.

Four of the eight members on the Board are elected by the membership: two general employees, a teacher and a retiree. Three members are citizens of the State, one of whom is an officer of a bank authorized to do business in the State or a person of similar experience, who are not employees and are appointed by the Governor. The State Director of Finance is an ex-officio member by statute.

	Date Current Term Began	Date Term Ends
Elected:		
Ms. Genevieve Ley, Board Chair	January 2, 2024	January 1, 2030
Mr. Emmit A. Kane	January 2, 2020	January 1, 2026
Mr. Bennett Yap	January 2, 2020	January 1, 2026
Ms. Catherine Chan	January 2, 2022	January 1, 2028
Appointed:		
Mr. Vincent Barfield	May 9, 2024	June 30, 2030
Mr. David Louie	December 11, 2024	January 1, 2030
Mr. Lance Mizumoto	July 27, 2021	January 1, 2026
Ex-Officio:		
Mr. Luis Salaveria	December 5, 2022	December 7, 2026

Organizational Structure



Executive Director
Deputy Executive Director
Chief Investment Officer

Thomas Williams
 Gail Strohl
 Kristin Varela

Actuary
 Gabriel, Roeder, Smith and Company

Auditors
 State of Hawaii, Office of the Auditor
 KKDLY LLC

Legal Advisor
 Attorney General of the State of Hawaii

Medical Board
 Dr. Patricia L. Chinn, Chair
 Dr. Bernard Chun, Member
 Dr. Peter Dee, Member

** The *Investment Section* of this ACFR contains a list of investment professionals on pages 109-111; a schedule investment fees on page 114; and a schedule of broker commissions on pages 115-120.

Plan Summary

The Employees' Retirement System (ERS) of the State of Hawaii was established by the Legislature in 1925 to provide retirement, disability and survivor benefits for State employees, teachers, professors, county employees, police officers, firefighters, judges and elected officials.

The ERS is a qualified defined benefit pension plan under Section 401(a) of the Internal Revenue Code. As such, the ERS is exempt from federal income taxation on its investment earnings. Since January 1, 1988, member contributions have been tax deferred under Section 414(h) of the Internal Revenue Code.

Members are covered by the provisions of the Contributory, Hybrid or Noncontributory retirement class. Except for employees in certain positions who are required to be Contributory members, most new employees from July 1, 2006 are enrolled as Hybrid Members.

Those in the Contributory Class are required to make contributions to the ERS and may also be covered by Social Security. Employees in the following occupational groups are required to be members of the Contributory Class: police officers, firefighters, judges, elected officials, legislative officers, attorney general investigators, narcotics enforcement investigators, and public safety investigations staff investigators. As of March 31, 2024, 5,198 active employees were enrolled in the Contributory Class, or about 7.9% of our active members.

On July 1, 2006, the Hybrid Class became effective pursuant to Act 179/2004. Members in the Hybrid Class (a contributory benefit structure) must also contribute to the ERS and are generally covered by Social Security. The Hybrid Class covers most employees hired from July 1, 2006, as well as certain employees hired before July 1, 2006 who elected to change to Hybrid Membership. The Hybrid membership will continue to increase going forward as most new employees hired from July 1, 2006 will be required to become a Hybrid member. As of March 31, 2024, the Hybrid Class had 52,124 members or about 79.8% of the ERS' active membership.

Noncontributory Members do not make contributions to the ERS and are covered by Social Security. The Noncontributory Class covers employees hired from July 1, 1984 to June 30, 2006, as well as employees hired before July 1, 1984 who elected to join the Noncontributory Class. As of March 31, 2024, there were 8,700 active employees in the Noncontributory Class, which represents over 12.3% of all active members on this date.

Most employees hired after June 30, 2012 fall under the new tier of benefits, contributions and vesting requirements as a result of legislation passed in 2011.

A summary of the general retirement benefits, including retirement options, for Contributory, Hybrid and Noncontributory members are on the following pages. For more detailed and current information on the contributions, benefits, eligibility and other plan details please visit the ERS website at <https://ers.ehawaii.gov/>.

Summary of Retirement Benefit Plan Provisions

Membership for employees hired prior to July 1, 2012 ^(a)

	Noncontributory	Contributory	Hybrid
Employee Contributions	No employee contributions	7.8% of salary	6.0% of salary
Normal Retirement			
Eligibility	Age 62 and 10 years credited service; <i>or</i> Age 55 and 30 years credited service	Age 55 and 5 years credited service	Age 62 and 5 years credited service; <i>or</i> Age 55 and 30 years credited service
Benefit	1-1/4% of average final compensation* times years of credited service	2% of average final compensation* times years of credited service	2% of average final compensation* times years of credited service, with a split formula for Noncontributory service at 1-1/4%
<p>* Average final compensation (AFC) is an average of the highest salaries during any three years of credited service, excluding any salary paid in lieu of vacation or if ERS membership occurred prior to 1/1/71, AFC may be an average of the highest salaries during any five years of credited service including any salary paid in lieu of vacation.</p>			
Early Retirement			
Eligibility	Age 55 and 20 years credited service	Any age and 25 years credited service	Age 55 with 20 years credited service
Benefit	Maximum allowance reduced 6% per year under age 62	Maximum allowance reduced 5% per year under age 55 plus 4% per year under age 50	Maximum allowance reduced 5% per year under age 62
Deferred Vesting			
Eligibility	10 years credited service	5 years credited service and contributions left in the ERS	5 years credited service and contributions left in the ERS
Benefit	Accrued maximum allowance payable as early as age 55 or at age 65 with 10 but less than 20 years of credited service	Accrued maximum allowance payable at age 55	Accrued maximum allowance payable as early as age 55 or at age 62 with 5 but less than 20 years of credited service

^(a) Per Act 163/2012, SLH, the major changes to membership requirements, contribution amounts, and benefits structures for employees hired after June 30, 2012 are discussed on pages 17-21.

Summary of Retirement Benefit Plan Provisions (continued)
Membership for employees hired prior to July 1, 2012 (continued) ^(a)

	Noncontributory	Contributory	Hybrid
Annuity Savings Account			
Interest	Not applicable	4.5% per annum on employee contributions and accrued interest, <i>or</i> If hired after June 30, 2011, 2.0% per annum on employee contributions and accrued interest	4.5% per annum on employee contributions and accrued interest, <i>or</i> If hired after June 30, 2011, 2.0% per annum on employee contributions and accrued interest
Refund Eligibility	Not applicable	Contributions may be withdrawn upon retirement or termination of employment; upon refund, all service and any future retirement benefit will be forfeited	Contributions may be withdrawn upon retirement or termination of employment; upon refund, all service and any future retirement benefit will be forfeited
Refund Benefit			
- Terminates with less than 5 years credited service	Not applicable	Return of member's contributions and accrued interest	Return of member's contributions and accrued interest
- Terminates with 5 or more years of credited service	Not applicable	Return of member's contributions and accrued interest	Return of member's Hybrid contributions and accrued interest, times 150%; plus any non-Hybrid contributions and accrued interest
Ordinary Disability			
Eligibility	10 years credited service	10 years credited service	10 years credited service
Benefit	1-1/4% of AFC times years of credited service, unreduced for age (Minimum is 12.5% of AFC)	1-3/4% of AFC times years of credited service, unreduced for age (Minimum is 30% of AFC)	2% of AFC times years of credited service, unreduced for age; split formula for Noncontributory service at 1-1/4% (Minimum is 25% of AFC)

^(a) Per Act 163/2012, SLH, the major changes to membership requirements, contribution amounts, and benefits structures for employees hired after June 30, 2012 are discussed on pages 17-21.

Summary of Retirement Benefit Plan Provisions (continued)

Membership for employees hired prior to July 1, 2012 (continued) ^(a)

	Noncontributory	Contributory	Hybrid
Service-Connected Disability			
Eligibility	Any age or credited service	Any age or credited service	Any age or credited service
Benefit	<p>Lifetime pension of 35% of AFC</p> <p>** For accidents occurring before July 1, 2004, accrued maximum allowance, but not less than 15% of AFC</p>	<p>Lifetime pension of 50% of AFC plus refund of member's contributions and accrued interest</p> <p>** For accidents occurring before July 7, 1998, a different benefit is used</p>	<p>Lifetime pension of 35% of AFC plus refund of member's contributions and accrued interest</p>
Ordinary Death			
Eligibility	Active employee at time of death with at least 10 years of credited service	Active employee at time of death with at least 1 year of service	Active employee at time of death with at least 5 years of service
Benefit	<p>Surviving spouse/reciprocal beneficiary (until remarriage or reentry into a new reciprocal beneficiary relationship) and dependent children (up to age 18) receive a benefit equal to a percentage of member's accrued maximum allowance unreduced for age; or</p> <p>Option B (100% Joint and Survivor) lifetime pension for surviving spouse/reciprocal beneficiary if member was eligible for retirement at time of death.</p>	<p>Lump sum payment of member's contributions and accrued interest plus a percentage of the salary earned in the 12 months preceding death; or</p> <p>Option 3 (50% Joint and Survivor) lifetime pension if member was not eligible for retirement at the time of death, credited with at least 10 years of service, and one beneficiary designated; or</p> <p>Option 2 (100% Joint and Survivor) lifetime pension if member was eligible for retirement at the time of death and one beneficiary designated; or</p> <p>If less than 1 year of service, return of member's contributions and accrued interest.</p>	<p>Lump sum payment of member's Hybrid contributions and accrued interest (times 150%) plus return of non-Hybrid contributions and accrued interest; or</p> <p>Option 3 (50% Joint Survivor) lifetime pension if member was not eligible for retirement at the time of death, credited with at least 10 years of service and one beneficiary designated; or</p> <p>Option 2 (100% Joint Survivor) lifetime pension if member was eligible for retirement at the time of death, and one beneficiary designated; or</p> <p>If less than 5 years of service, return of member's contributions and accrued interest.</p>

^(a) Per Act 163/2012, SLH, the major changes to membership requirements, contribution amounts, and benefits structures for employees hired after June 30, 2012 are discussed on pages 17-21.

Summary of Retirement Benefit Plan Provisions (continued)

Membership for employees hired prior to July 1, 2012 (continued) ^(a)

	Noncontributory	Contributory	Hybrid
Service-Connected Death			
Eligibility	Any age or service	Any age or service	Any age or service
Benefit	Surviving spouse/reciprocal beneficiary receives monthly benefit equal to 30% of AFC (until remarriage or re-entry into a new reciprocal beneficiary relationship); additional benefits payable to surviving dependent children (up to age 18). If there is no spouse/reciprocal beneficiary or dependent children, no benefit is payable.	Lump sum payment of member's contributions and accrued interest to designated beneficiary, plus monthly benefit of 50% of AFC to surviving spouse/reciprocal beneficiary (until remarriage or re-entry into a new reciprocal beneficiary relationship). If there is no surviving spouse or reciprocal beneficiary, surviving dependent children (up to age 18) or dependent parents shall be eligible for a monthly benefit. If there is no spouse/reciprocal beneficiary or dependent children/parents, the ordinary death benefit shall be payable to the designated beneficiary.	Lump sum payment of member's contributions and accrued interest to designated beneficiary, plus monthly benefit of 50% of AFC to surviving spouse/reciprocal beneficiary (until remarriage or re-entry into a new reciprocal beneficiary relationship). If there is no surviving spouse or reciprocal beneficiary, surviving dependent children (up to age 18) or dependent parents shall be eligible for a monthly benefit. If there is no spouse/reciprocal beneficiary or dependent children/parents, the ordinary death benefit shall be payable to the designated beneficiary.
Post Retirement Benefit - For all types of retirements (service, disability or death)	Each retiree's original retirement allowance is increased by 2.5% on each July 1 beginning the calendar year after retirement. This cumulative benefit is not compounded and increases each year by another 2.5% of the original retirement allowance without a ceiling (i.e., 2.5% of the original retirement allowance the first year, 5% the second year, 7.5% the third year, etc.).		

^(a) Per Act 163/2012, SLH, the major changes to membership requirements, contribution amounts, and benefits structures for employees hired after June 30, 2012 are discussed on pages 17-21.

Summary of Retirement Benefit Plan Provisions (continued)

Membership for employees hired prior to July 1, 2012 (continued) ^(a)

The plan provisions summarized in the preceding pages apply to teachers and most State and County employees, hired before July 1, 2012. Special provisions applicable to other groups of employees, hired by July 1, 2012, are summarized in Item A to D below:

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

^(a) Per Act 163/2012, SLH, the major changes to membership requirements, contribution amounts, and benefits structures for employees hired after June 30, 2012 are discussed on pages 17-21.

Summary of Retirement Benefit Plan Provisions (continued)

Membership for employees hired after June 30, 2012 ^(b)

	Noncontributory	Contributory	Hybrid
Employee Contributions	No employee contributions	9.8% of salary	8.0% of salary
Normal Retirement			
Eligibility	Age 62 and 10 years credited service; <i>or</i> Age 55 and 30 years credited service	Age 60 and 10 years credited service	Age 65 and 10 years credited service; <i>or</i> Age 60 and 30 years credited service
Benefit	1-1/4% of average final compensation* times years of credited service	1.75% of average final compensation* times years of credited service	1.75% of average final compensation* times years of credited service, with a split formula for Noncontributory service at 1-1/4%
* Average final compensation (AFC) is an average of the highest salaries (limited to base pay and shortage differentials) during any five years of credited service, excluding any salary paid in lieu of vacation.			
Early Retirement			
Eligibility	Age 55 and 20 years credited service	Age 55 with 25 years credited service	Age 55 with 20 years credited service
Benefit	Maximum allowance reduced 6% per year under age 62	Maximum allowance reduced 5% per year under age 60 plus 4% per year under age 55	Maximum allowance reduced 5% per year under age 65
Deferred Vesting			
Eligibility	10 years credited service	10 years credited service and contributions left in the ERS	10 years credited service and contributions left in the ERS
Benefit	Accrued maximum allowance payable as early as age 55 or at age 65 with 10 but less than 20 years of credited service	Accrued maximum allowance payable at age 60, or at age 55 with 25 years of service with age reduction	Accrued maximum allowance payable as early at age 65 or at age 60 with 30 years of service, or at age 55 with 20-29 years of credited service with age reduction

^(b) Membership requirements, contribution amounts, and benefits structures for employees hired before July 1, 2012 are discussed on pages 12-16.

Summary of Retirement Benefit Plan Provisions (continued)

Membership for employees hired after June 30, 2012 (continued)^(b)

	Noncontributory	Contributory	Hybrid
Annuity Savings Account			
Interest	Not applicable	2.0% per annum on employee contributions and accrued interest	2.0% per annum on employee contributions and accrued interest
Refund Eligibility	Not applicable	Contributions may be withdrawn upon retirement or termination of employment; upon refund, all service and any future retirement benefit will be forfeited	Contributions may be withdrawn upon retirement or termination of employment; upon refund, all service and any future retirement benefit will be forfeited
Refund Benefit			
- Terminates with less than 10 years credited service	Not applicable	Return of member's contributions and accrued interest	Return of member's contributions and accrued interest
- Terminates with 10 or more years of credited service	Not applicable	Return of member's contributions and accrued interest	Return of member's Hybrid contributions and accrued interest, times 120%; plus any non-Hybrid contributions and accrued interest
Ordinary Disability			
Eligibility	10 years credited service	10 years credited service	10 years credited service
Benefit	1-1/4% of AFC times years of credited service, unreduced for age (Minimum is 12.5% of AFC)	1-3/4% of AFC times years of credited service, unreduced for age (Minimum is 30% of AFC)	1-3/4% of AFC times years of credited service, unreduced for age (Minimum is 25% of AFC)

^(b) Membership requirements, contribution amounts, and benefits structures for employees hired before July 1, 2012 are discussed on pages 12-16.

Summary of Retirement Benefit Plan Provisions (continued)

Membership for employees hired after June 30, 2012 (continued)^(b)

	Noncontributory	Contributory	Hybrid
Service-Connected Disability			
Eligibility	Any age or credited service	Any age or credited service	Any age or credited service
Benefit	Lifetime pension of 35% of AFC	Lifetime pension of 50% of AFC plus refund of member's contributions and accrued interest	Lifetime pension of 35% of AFC plus refund of member's contributions and accrued interest
Ordinary Death			
Eligibility	Active employee at time of death with at least 10 years of credited service	Active employee at time of death with at least 1 year of service	Active employee at time of death with at least 10 years of service
Benefit	Surviving spouse/reciprocal beneficiary (until remarriage or reentry into a new reciprocal beneficiary relationship) and dependent children (up to age 18) receive a benefit equal to a percentage of member's accrued maximum allowance unreduced for age; or Option B (100% Joint and Survivor) lifetime pension for surviving spouse/reciprocal beneficiary if member was eligible for retirement at time of death.	Lump sum payment of member's contributions and accrued interest plus a percentage of the salary earned in the 12 months preceding death; or Option 3 (50% Joint and Survivor) lifetime pension if member was not eligible for retirement at the time of death, credited with at least 10 years of service, and one beneficiary designated; or Option 2 (100% Joint and Survivor) lifetime pension if member was eligible for retirement at the time of death and one beneficiary designated; or If less than 1 year of service, return of member's contributions and accrued interest.	Lump sum payment of member's Hybrid contributions and accrued interest (times 120%) plus return of non-Hybrid contributions and accrued interest; or Option 3 (50% Joint Survivor) lifetime pension if member was not eligible for retirement at the time of death, credited with at least 10 years of service and one beneficiary designated; or Option 2 (100% Joint Survivor) lifetime pension if member was eligible for retirement at the time of death, and one beneficiary designated; or If less than 10 years of service, return of member's contributions and accrued interest.

^(b) Membership requirements, contribution amounts, and benefits structures for employees hired before July 1, 2012 are discussed on pages 12-16.

Summary of Retirement Benefit Plan Provisions (continued)

Membership for employees hired after June 30, 2012 (continued)^(b)

	Noncontributory	Contributory	Hybrid
Service-Connected Death			
Eligibility	Any age or service	Any age or service	Any age or service
Benefit	<p>Surviving spouse/reciprocal beneficiary receives monthly benefit equal to 30% of AFC (until remarriage or re-entry into a new reciprocal beneficiary relationship); additional benefits payable to surviving dependent children (up to age 18).</p> <p>If there is no spouse/reciprocal beneficiary or dependent children, no benefit is payable.</p>	<p>Lump sum payment of member's contributions and accrued interest to designated beneficiary, plus monthly benefit of 50% of AFC to surviving spouse/reciprocal beneficiary (until remarriage or re-entry into a new reciprocal beneficiary relationship).</p> <p>If there is no surviving spouse or reciprocal beneficiary, surviving dependent children (up to age 18) or dependent parents shall be eligible for a monthly benefit.</p> <p>If there is no spouse/reciprocal beneficiary or dependent children/parents, the ordinary death benefit shall be payable to the designated beneficiary.</p>	<p>Lump sum payment of member's contributions and accrued interest to designated beneficiary, plus monthly benefit of 50% of AFC to surviving spouse/reciprocal beneficiary (until remarriage or re-entry into a new reciprocal beneficiary relationship).</p> <p>If there is no surviving spouse or reciprocal beneficiary, surviving dependent children (up to age 18) or dependent parents shall be eligible for a monthly benefit.</p> <p>If there is no spouse/reciprocal beneficiary or dependent children/parents, the ordinary death benefit shall be payable to the designated beneficiary.</p>
Post Retirement Benefit - For all types of retirements (service, disability or death)	Each retiree's original retirement allowance is increased by 1.5% on each July 1 beginning the calendar year after retirement. This cumulative benefit is not compounded and increases each year by another 1.5% of the original retirement allowance without a ceiling (i.e., 1.5% of the original retirement allowance the first year, 3% the second year, 4.5% the third year, etc.).		

^(b) Membership requirements, contribution amounts, and benefits structures for employees hired before July 1, 2012 are discussed on pages 12-16.

Summary of Retirement Benefit Plan Provisions (continued)

Membership for employees hired after June 30, 2012 (continued)^(b)

The plan provisions summarized in the preceding pages apply to teachers and most State and County employees, hired after June 30, 2012. Special provisions applicable to other groups of employees, hired after June 30, 2012, are summarized in Item A to D below:

- A) Police officers, firefighters, investigators of the Department of the Attorney General, narcotic enforcement investigators, and public safety investigations staff investigators contribute 14.2 % of their monthly salary to the ERS instead of 9.8%. These members may retire at age 60 with 10 years of credited service or at age 55 with 25 years of credited service and receive a retirement benefit of 2-1/4% of average final compensation (AFC) for each year of such service up to a maximum of 80% AFC, provided the last 5 years is credited service in any of these occupations.
- B) Judges may retire at age 60 with at least 10 years of credited service, or at age 55 with at least 25 years of credited service and receive a pension of 3% of AFC for each year of such service plus an annuity from their contributions allocable to the period of such service. Similarly, elected officials and legislative officers may retire at any age with 10 years of elected, legislative or mixed service and receive a pension of 3% of AFC for each year of service plus an annuity from their contributions allocable to the period of such service. These benefits cannot exceed 75% of the AFC.
- C) Contributory Class sewer workers in specified classifications, water safety officers and emergency medical technicians may retire at age 60 with 10 years of credited service or at age 55 with 25 years of such service with the last 5 or more years in these occupations.
- D) Hybrid Class sewer workers in specified classifications, water safety officers and emergency medical technicians may retire at age 65 with 10 years of credited service or at age 55 with 25 years of such service with the last 5 or more years in these occupations. They are required to contribute 11.75% instead of 8% of their salary to the ERS.

^(b) Membership requirements, contribution amounts, and benefits structures for employees hired before July 1, 2012 are discussed on pages 12-16.

Summary of Retirement Benefit Plan Provisions (continued)

Taxation of Benefits

All retirement benefits are subject to Federal income tax but are exempt from Hawaii State income tax. Certain occupational (work related) disability benefits are exempt from Federal income tax. Arrangements to initiate voluntary withholding of Federal income tax can be made at any time. The ERS provides retirees with a 1099-R tax form on or before January 31 of each year.

Additional Benefits

Retirees, their spouses and dependent children under age 19 are eligible to receive life insurance, medical, dental, vision, and prescription drug coverage from the Employer-Union Health Benefits Trust Fund (EUTF) if they were hired before July 1, 1996, and retire with at least 10 years of continuous credited service. If they were first hired after June 30, 1996, health benefits are available on a cost-sharing basis as long as the member retires with at least 10 years of continuous service. A dependent of a retiree who is a full-time student at an accredited college, university or technical school and who is 19 through 26 years old is also eligible for coverage. A retiree with a hire date after July 1, 2001 will only receive coverage for him or herself on a cost sharing basis.

Unused sick leave is excluded from credited service in determining health benefit coverage.

Retirees are responsible for premiums in excess of the amount of employer contributions. Retirees and their spouses are eligible to receive a reimbursement of the Medicare Part B medical insurance premium. More information is available on the EUTF's website at <https://eutf.hawaii.gov>.

Applying for Retirement

A service retirement application can be filed with the ERS 150 days but no less than 30 days prior to the effective date of retirement. Once the application has been filed, cancellation prior to the effective date of retirement is permitted; however, the law requires mandatory retirement upon the third application. Members may obtain retirement information and application forms at the following locations:

Oahu Office
City Financial Tower
201 Merchant Street, Suite 1400
Honolulu, HI 96813
Phone: (808) 586-1735
Fax: (808) 587-5766

Kauai Office
3060 Eiwa Street, Room 302
Lihue, Hawaii 96766
Phone: (808) 274-3010
Fax: (808) 241-3193

Hawaii Office
101 Aupuni Street, Suite 208
Hilo, Hawaii 96720
Phone: (808) 974-4076
Fax: (808) 974-4078

Maui Office
54 S. High Street, Room 218
Wailuku, Hawaii 96793
Phone: (808) 984-8181
Fax: (808) 984-8183

Molokai and Lanai
Toll-free to Oahu:
1-800-468-4644, ext 61735

Continental U.S. only
Toll free to Oahu
1-888-659-0708

*Summary of Retirement Benefit Plan Provisions (continued)***Counseling Service**

It is the policy of the ERS to render every possible service to its members; however, as thousands of inquiries are received and answered annually, in addition to the actual processing of claims and benefits, present staff and appropriations restrict this service to those members whose immediate welfare is dependent upon the prompt settlement of benefits. Members who are definite about retirement should contact the ERS to request formal retirement estimates. For members who are not planning immediate retirement and interested in their benefit status a retirement benefit calculator and other retirement information are available on the ERS' website at <https://ers.chawaii.gov/>.

*Retirement Options***CONTRIBUTORY AND HYBRID MEMBERS**

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

Option One: The member receives a reduced lifetime allowance based on age; at death, the difference between the initial insurance reserve and the retirement allowance paid prior to death is paid to the designated beneficiary(ies) or estate. In lieu of the lump-sum balance, the beneficiary may elect to receive an allowance for life based on the value of the balance; provided that the allowance is not less than \$100 per month.

Option Two (100% Joint and Survivor): The member receives a reduced lifetime allowance based on ages of both the member and the sole beneficiary and at death; the same allowance is paid to the designated beneficiary for life. Should the designated beneficiary predecease the retiree, another beneficiary cannot be named and all payments will cease at the retiree's death. For retirements on or after December 1, 2004, should the beneficiary predecease the retiree, the retiree's reduced pension "pops up" or increases to the corresponding Maximum Allowance instead of remaining at the reduced amount.

Option Three (50% Joint and Survivor): This option is similar to Option Two. The member receives a reduced lifetime allowance which is higher than Option Two and is based on ages of both the member and the sole beneficiary; however, at death one-half of the allowance is paid to the designated beneficiary for life. Like Option Two, should the designated beneficiary predecease the retiree, another beneficiary cannot be named and all payments will cease at the retiree's death. For retirements on or after December 1, 2004, should the beneficiary predecease the retiree, the retiree's reduced pension "pops up" or increases to the corresponding Maximum Allowance instead of remaining at the reduced amount.

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

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

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

(c) Combination of Options Five and Two: The member receives a reduced lifetime allowance based on ages of both the member and the sole beneficiary, and is allowed to withdraw the pre-1987 nontaxable contributions, 50% of accumulated contributions, or 75% of accumulated contributions (Hybrid members are not allowed the 75% option); at death, the same allowance is paid to the designated beneficiary for life. As in the case of Option Two, should the designated beneficiary predecease the retiree, another beneficiary cannot be named and all payments will cease at the retiree's death. For retirements on or after December 1, 2004, should the beneficiary predecease the retiree, the retiree's reduced pension "pops up" or increases to the corresponding Maximum Allowance instead of remaining at the reduced amount.

*Retirement Options (continued)***CONTRIBUTORY AND HYBRID MEMBERS (continued)**

(d) Combination of Options Five and Three: The member receives a reduced lifetime allowance based on ages of both the member and the sole beneficiary, and is allowed to withdraw the pre-1987 nontaxable contributions, 50% of accumulated contributions, or 75% of accumulated contributions (Hybrid members are not allowed the 75% option); at death, one-half of the allowance is paid to the designated beneficiary for life. As in the case of Option Three, should the designated beneficiary predecease the retiree, another beneficiary cannot be named and all payments will cease at the retiree's death. For retirements on or after December 1, 2004, should the beneficiary predecease the retiree, the retiree's reduced pension "pops up" or increases to the corresponding Maximum Allowance instead of remaining at the reduced amount.

Option Five: The member receives a reduced lifetime allowance and is allowed to withdraw all accumulated contributions; at death, there is no further benefits payable.

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

Death within a year: Regardless of the option selected, should death of the Contributory or Hybrid member occur during the first year of retirement, the designated beneficiary may elect to receive benefits as if death had occurred immediately prior to retirement in lieu of the death benefits described above.

NONCONTRIBUTORY MEMBERS

Maximum Allowance: The member receives a lifetime pension and at death, there is no further benefit payable.

Option A (50% Joint and Survivor): The member receives a reduced lifetime pension and at death, one-half of the pension is paid to the sole designated beneficiary for life. Should the designated beneficiary predecease the retiree, another beneficiary cannot be named and all payments will cease upon the retiree's death. For retirements on or after December 1, 2004, should the beneficiary predecease the retiree, the retiree's reduced pension "pops up" or increases to the corresponding Maximum Allowance instead of remaining at the reduced amount.

Option B (100% Joint and Survivor): The member receives a reduced lifetime pension and at death, the same pension is paid to the sole designated beneficiary for life. Like Option A, should the designated beneficiary predecease the retiree, another beneficiary cannot be named and all payments will cease upon the retiree's death. For retirements on or after December 1, 2004, should the beneficiary predecease the retiree, the retiree's reduced pension "pops up" or increases to the corresponding Maximum Allowance instead of remaining at the reduced amount.

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

Death within a year: Regardless of the option selected, should death of the Noncontributory member occur during the first year of retirement, the designated beneficiary may elect to receive benefits under Option B in lieu of the death benefits described above, provided that if the retiree would not have been permitted by applicable law or the rules of the Board to name the designated beneficiary under Option B, the designated beneficiary may elect to receive the death benefit under Option A.

The following legislation (Acts) passed during the 2024 Legislative Session (including Special Sessions) and approved by the Governor that impacts the ERS For more information on the 2024 Legislative Session, please refer to the capitol website at <https://www.capitol.hawaii.gov/>.

Act 192 (SB3070) Relating to the Employees' Retirement System Funding Period

The bill lowers the ERS's funding period to amortize the System's unfunded accrued liability from 30 years to 20 years through a step-down reduction over five years. The first maximum funding period reduction is set at 25 years effective for the June 30, 2024 actuarial valuation. There is a year-over-year stepdown in the maximum funding period until it reaches twenty years as determined by the actuarial valuation as of June 30, 2029, and thereafter.

- The bill aims to reduce future costs and align the System for the revised Actuarial Standard of Practice No. 4 (ASOP 4) entitled "measuring pension obligations and determining pension plan costs or contributions", effective for pension funding valuations with measurement dates on or after February 15, 2023.

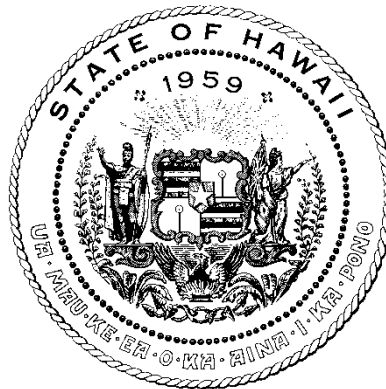
Effective: June 30, 2024



Employees' Retirement System
of the State of Hawaii

Submitted by

**THE AUDITOR
STATE OF HAWAII**



**FINANCIAL
SECTION**

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Independent Auditor's Report

The Auditor
State of Hawaii

Board of Trustees
Employees' Retirement System of the State of Hawaii

Report on the Audit of the Financial Statements***Opinion***

We have audited the statement of fiduciary net position of the Employees' Retirement System of the State of Hawaii (the ERS) as of June 30, 2024, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to financial statements, which collectively comprise the ERS' basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the ERS as of June 30, 2024, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

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 (*Government Auditing Standards*). Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Financial Statements* section of our report. We are required to be independent of the ERS and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the ERS' ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.



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*Independent Auditors' Report (continued)****Auditor's Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with auditing standards generally accepted in the United States of America and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by reasonable user based on the financial statements.

In performing an audit in accordance with auditing standards generally accepted in the United States of America and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 ERS' internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the ERS' ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the schedule of changes in the employers' net pension liability and related ratios, schedule of the employers' net pension liability, and schedule of investment returns (collectively the required the supplementary information) be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial

Independent Auditors' Report (continued)

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.

Other Supplementary 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 included in Schedules 1 through 4 as listed in the table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is 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. The information included in Schedules 1 through 3 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 supplementary information included in Schedules 1 through 3 is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The information included in Schedule 4 has not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Other Reporting Required by Government Auditing Standards

In accordance with Government Auditing Standards, we have also issued our report dated September 8, 2025, 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 solely 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 effectiveness of the ERS' 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.



Honolulu, Hawaii
September 8, 2025

Management's Discussion and Analysis (Unaudited)

This 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, 2024. The MD&A is presented as a narrative overview and analysis in conjunction with the Letter of Transmittal, which is included in the Introductory Section of the separately issued ERS Annual Comprehensive Financial Report (the ACFR). For more detailed information pertaining to the ERS' financial activities, the reader should also review the actual financial statements, including the notes and supplementary information.

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' 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. 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.

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, 2024, and the related statement of changes in fiduciary net position during the fiscal year from July 1, 2023 to June 30, 2024 (FY 2024). 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.
- The Required Supplementary Information, which includes the schedules of changes in the employers' net pension liability and related ratios, employers' net pension liability 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.

Management's Discussion and Analysis (Unaudited continued)

- The Other Supplementary Information is derived from and relates directly to the underlying accounting and other records used to prepare the financial statements, and provides additional detailed information concerning the changes in operating reserves established by legislation, and the operating and investment related expenses of the ERS. The Other Supplementary Information also includes a report on employer social security contribution amounts for the State that are paid directly to the Internal Revenue Service (IRS). This information is separate from the financial information of the Pension Trust Fund.

Financial Highlights

- The fiduciary net position increased to \$23.7 billion as of June 30, 2024, with an increase in funded status during the fiscal year to 62.6%. The ERS' fiduciary net position was \$22.4 billion, for a 61.9% funded status as of June 30, 2023.
- The ERS investment return (net of fees, and contains lagged and non-lagged components) was 7.2% for the 2024 fiscal year compared to 1.9% for the 2023 fiscal year, using the time-weighted rate of return methodologies that are generally accepted by the Global Investment Performance Standards (GIPS) (that is shown in the *Investment Section* of the ACFR). The investment program outperformed its actuarial and investment goal of 7.0% that was effective June 30, 2024 Under Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans – an amendment of GASB Statement No. 25*, the annual money-weighted return on ERS' pension plan investments, net of pension plan investment expense, was 6.6% and 3.8% for FY 2024 and FY 2023, respectively.

Effective October 1, 2014, the Board of Trustees of the ERS (the Board) approved the adoption of a change in its asset allocation policy from the asset-class policy to a new risk-based asset allocation framework (with four major asset classes: Broad Growth, Principal Protection, Real Return and Crisis Risk Offset). Following the completion of the 2019 Asset Liability Study the Board adopted a new long-term strategic allocation policy, in July 2020, that established two major asset classes of Broad Growth and Diversifying Strategies. Most prevailing classes and sub-classes were renamed and/or reorganized allocations to better align with risk allocations, while a few classes were eliminated as part of this policy update.

The Board initiated and completed an asset-liability study during fiscal year 2023. As a result of the 2023 Asset-Liability Study, the Board adopted a new long-term strategic allocation policy which became effective on January 1, 2024. In addition, the strategic class framework incorporated new naming conventions and improved definitions of sub-asset classes to better align with the ERS risk allocation and restructured certain invested opportunities to better align with their characteristics. Please refer to Note E.1, Investment Policy, for more detailed information on the asset allocation policy.

Management's Discussion and Analysis (Unaudited continued)

- During 2024 and 2023, there was no significant legislation passed that significantly affects the operations or provisions of the pension trust.
- Total pension liability as of June 30, 2024 increased to \$37.8 billion from \$36.2 billion as of June 30, 2023, while the corresponding net pension liability increased to \$14.1 billion as of June 30 2024 from \$13.8 billion as of June 30, 2023. Covered payroll for the ERS increased in FY 2024 to \$4.9 billion compared to FY 2023 of \$4.7 billion for a 5.9% increase.
- The fiduciary net position as a percentage of total pension liability increased to 62.6% from 61.9% as of June 30, 2024 and June 30, 2023, respectively, while the funded ratio on an actuarial basis increased to 63.0% from 62.2%, 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.
- Contributions from members and employers increased by a total of \$154.4 million during FY 2024, or 9.7% from FY 2023. The increase is primarily an increase in covered payroll from an increase in active members and pay increases, more active members being required to contribute, and new employees contributing at higher contribution rates. The historical summary of legislation impacting the ERS actuarial valuations is discussed in more detail in the “Summary of Plan Changes” in the Actuarial Section of the ACFR.
- Total benefit payments increased by \$83.1 million, or 4.6% in FY 2024 from FY 2023. Pension benefits continue to increase due to 1.5% more retirees and beneficiaries (55,820 in 2024 compared to 54,973 in 2023), an increase in the average pension benefit for new retirees, and the annual 2.5% or 1.5% postretirement increase paid to most retirees.
- Administrative expenses decreased by \$0.5 million to \$18.0 million in FY 2024 from \$18.5 million in FY 2023. The decrease in administrative expenses is primarily the result of a decrease in computer related (equipment, cloud and maintenance) costs, and to a lesser extent a decrease in salaries and wages (from increased vacancies), professional services and postage costs. These costs were offset by an increase in fringe benefit assessment costs and the liability increase for vacation accruals. Administrative expenses for all years were within the ERS’ budgeted amounts.

Analysis of Fiduciary Net Position

Summary of Fiduciary Net Position
June 30, 2024 and 2023
(Dollars in millions)

	<u>2024</u>	<u>2023</u>	<u>FY 2024</u> <u>% change</u>
Assets:			
Cash and cash equivalents and short-term investments	\$ 816.5	\$ 497.9	64.0 %
Receivables	352.3	199.9	76.2
Investments	22,740.8	21,959.0	3.6
Invested securities lending collateral	765.6	491.5	55.8
Equipment, net	<u>3.0</u>	<u>4.0</u>	(25.0)
Total assets	<u>24,678.2</u>	<u>23,152.3</u>	6.6
Liabilities			
Securities lending liability	765.6	491.5	55.8
Investment accounts and other payables	<u>212.0</u>	<u>235.4</u>	(9.9)
Total liabilities	<u>977.6</u>	<u>726.9</u>	34.5
Fiduciary net position restricted for pensions	<u>\$ 23,700.6</u>	<u>\$ 22,425.4</u>	5.7

Management's Discussion and Analysis (Unaudited continued)

Summary of Changes in Fiduciary Net Position

June 30, 2024 and 2023

(Dollars in millions)

	2024	2023	FY 2024 % change
Additions:			
Contributions	\$ 1,738.4	\$ 1,584.0	9.7 %
Net investment income	<u>1,461.9</u>	<u>826.9</u>	76.8 %
Total additions, net	<u>3,200.3</u>	<u>2,410.9</u>	32.7 %
Deductions:			
Benefit payments	1,878.5	1,795.4	4.6 %
Refund of member contributions	28.6	26.4	8.3 %
Administrative expenses	<u>18.0</u>	<u>18.5</u>	(2.7) %
Total deductions	<u>1,925.1</u>	<u>1,840.3</u>	4.6 %
Increase (decrease) in fiduciary net position			
restricted for pensions	\$ <u>1,275.2</u>	\$ <u>570.6</u>	123.5 %
Fiduciary net position restricted for pensions:			
Beginning	<u>22,425.4</u>	<u>21,854.8</u>	
Ending	\$ <u>23,700.6</u>	\$ <u>22,425.4</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.

Investments for the risk-based allocation policy approved in FY 2015, as revised, based on the type of security for financial reporting are listed below. In 2016, the ERS began using this framework with four major asset classes that 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. Following a 2019 Asset Liability Study that was completed in FY 2020, the Board adopted a new long-term strategic allocation policy. As part of the long-term strategic policy, the portfolio transitioned to two major asset classes (rather than four). Prevailing classes and sub-classes were remapped to the two major strategic classes where applicable as part of the FY 2020 implementation. As a result of the 2023 Asset-Liability Study, the strategic class framework incorporated new naming conventions and improved definitions of sub-asset classes to better align with the ERS risk allocation and restructured certain invested opportunities to better align with their characteristics. These revisions became effective during the 2024 fiscal year on January 1, 2024. Information about ERS' investment program is available on the ERS website at <https://ers.hawaii.gov/investments/program>.

Management's Discussion and Analysis (Unaudited continued)

The asset distribution of the ERS' investment securities for the pension trust, excluding pending trade settlements and securities lending collateral, at June 30, 2024 and 2023 are presented below at fair value. Fluctuations will occur based on the trading activity and timing of the settlements. Investment balances between the asset classes will change over time based on market sectors' performance and our rebalancing efforts to maintain asset allocation targets. Please refer to the Investment Section of this ACFR for a discussion on the risk-based methodology, asset allocation plan targets, and investments by investment strategy.

	Asset Class			
	June 30, 2024 and 2023			
	(Dollars in millions)			
	2024	%	2023	%
Short term investments				
and cash	\$ 816.5	3.5 %	\$ 497.9	2.2 %
Equity securities	5,277.4	22.4	5,288.9	23.6
Fixed income	5,200.0	22.1	3,525.7	15.7
Real assets	4,261.7	18.1	3,774.8	16.8
Alternative investments	8,001.7	34.0	9,369.6	41.7
Total investment assets	<u>23,557.3</u>	<u>100.1</u>	<u>22,456.9</u>	<u>100.0</u>

The rate of return (net of fees time-weighted rate of returns ¹) on the ERS investment portfolio was 7.2% in the unpredictable investment markets in FY 2024, outperformed the overall ERS investment target of 7.0%. The Broad Growth asset class returned 8.5% during the fiscal year while the Diversifying Strategies asset class returned of 4.7%. This compares to an overall return on the portfolio of 1.9% in FY 2023. Total net investment income increased to \$1,461.9 million in FY 2024 from \$826.9 million in FY 2023.

The ERS had positive returns of 8.5% in the Broad Growth asset class including positive returns in global equity (+11.9%) and global credit (+11.8%), that was offset by negative returns in real assets (-0.2%) During the FY 2024 the Diversifying Strategies returned 4.7% lead by positive returns in illiquid diversifying (+10.8%), followed by liquid defensive/diversifying (+3.7%). A summary of investment returns (by sub-component of the risk-based allocation) is included within the *Report on Investment Activity by Investment Consultant* that is located in the Investment Section of the ACFR.

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.

Investment expenses includes investment management fees paid to external investment advisor firms that oversee the ERS' investment portfolio.

¹ Effective July 1, 2023 (FY 2024), investment performance returns are presented net-of-fees and annualized for periods longer than one year. (Note that in prior years reports, investment performance returns were presented gross-of-fees performance data.)

Total investment management fees earned by external investment advisors decreased slightly in FY 2024 from FY 2023 due to the elimination of incentive investment fees that were accrued in previous fiscal years with the reduction of cumulative excess earnings on certain private market investments above the corresponding investment benchmark for those investments. Investment advisor fees include incentive fees for superior investment returns by the manager above their corresponding benchmark, while maintaining an acceptable level of investment risk. 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.

Contributions

Contributions from employers and employees totaled \$1,738.4 million and \$1,584.0 million in FY 2024 and FY 2023, respectively. During FY 2024, total contributions increased by \$154.4 million, or 9.7%, primarily from pay raises that resulted in an increase in covered payroll that contributions are assessed on.

Pension Plan Benefits and Expenses

Pension benefit payments continue to be the primary deduction of the ERS with payments increasing to \$1,878.5 million in FY 2024 from \$1,795.4 million in FY 2023. The pension benefits increase is 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 class members increased to \$28.6 million in FY 2024 from \$26.4 million in FY 2023.

Administrative expenses were down to \$18.0 million in FY 2024 from \$18.5 million in FY 2023 due as a result of a decrease in computer related (cloud, equipment, and repairs) costs, auditing and tax consulting services, and salaries and wages (resulting from an increase in staff vacancies). This was partially offset by an increase in employees' fringe benefit assessment costs plus an increase in the accrual of unused vacation credits, which was partially offset by a decrease in depreciation expense.

Pension Plan Changes

There was no significant legislation passed in 2024 and 2023 that affects pension plan provisions. Pension plan changes, including legislative and the Board's actions, are summarized in the Introductory Section and Actuarial Section of the ACFR.

Actuarial Valuations and Measurement of Net Pension Liability

The funding status increased during FY 2024 on the fiduciary net position (market asset basis) to 62.6% as of June 30, 2024 from 61.9% as of June 30, 2023, as a result meeting the expected investment returns.

Management's Discussion and Analysis (Unaudited continued)

During FY 2024, the ERS's investment portfolio earned 7.2% based on the market value of assets. This compares to rate of return for the actuarial value of 6.8% in FY 2024, which is different than the market return calculation due to the smoothing methodology used in the determination of the actuarial value of assets.

The total pension liability for fiscal year ended June 30, 2024 is based on the actuarial valuation performed as of June 30, 2024 and a measurement date of June 30, 2024.

Per the valuation as of June 30, 2024, the ERS' total pension liability was \$37.8 billion, covered payroll was \$4.9 billion and the ERS' fiduciary net position was \$23.7 billion resulting in a net pension liability of \$14.1 billion. The ERS' fiduciary net position as a percentage of total pension liability was 62.6% and 61.9% as of June 30, 2024 and 2023, resulting in the net pension liability as a percentage of covered payrolls of 285.9% and 295.2%, respectively. The increase in pension liabilities is the result of overall payroll growth and individual salary increases.

Based on the results of the actuarial valuation as of June 30, 2024, including existing statutory employer contribution rates, the ERS actuary determined that the funding period for paying off the unfunded actuarial accrued liability (UAAL) of the ERS Pension Trust decreased to 22 years from 23 years as of June 30, 2023. Because this period is less than the 25 years, the objectives set in Hawaii Revised Statutes (HRS) are currently being realized. HRS§88-122(e)(1) state that the employer contribution rates are subject to adjustment when the funding period is in excess of the statutory requirement, currently 25 years for June 30, 2024. (Per Act 192, SLH 2024, decreased the maximum funding period from 30 years to 25 years effective June 30, 2024. In addition, the maximum funding period will decrease by 1 each year in the future until the maximum funding period reaches 20 years effective June 30, 2029, at which point it will continue to be 20 years for all future years.)

The actuarial assumptions and changes to the assumptions are discussed in the Note F., Pension Liability and in the Required Supplementary Information – Unaudited section. The Actuarial Section of the ACFR contains for more information on changes to the actuarial assumptions.

Requests for Information

This financial report is designed to provide a general overview of the ERS' 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.

Financial Statements

Statement of Fiduciary Net Position

June 30, 2024

Assets:

Cash and cash equivalents and short-term investments:

Cash and cash equivalents	\$ 67,023,479
Short-term investments	749,510,853
	<u>816,534,332</u>

Receivables:

Employer and member contributions	162,873,096
Accrued investment income	42,228,081
Investment sales proceeds	143,416,440
Accounts receivable and others	3,797,764
	<u>352,315,381</u>

Investments, at fair value:

Equity securities	5,277,362,997
Fixed income securities	5,199,978,914
Real assets investments	4,261,689,706
Alternative investments	8,001,762,553
	<u>22,740,794,170</u>

Other:

Invested securities lending collateral	765,590,308
Equipment, at cost, net of depreciation	2,954,114
	<u>768,544,422</u>
Total assets	<u>24,678,188,305</u>

Liabilities:

Accounts and other payables	108,592,581
Payable for securities purchased	103,373,060
Securities lending collateral	765,590,308
Total liabilities	<u>977,555,949</u>

Fiduciary net position restricted for pensions	\$ <u>23,700,632,356</u>
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See accompanying notes to financial statements.

Statement of Changes in Fiduciary Net Position

Year Ended June 30, 2024

Additions:

Contributions:

Employers contributions	\$ 1,396,331,977
Members contributions	<u>342,066,080</u>
Total contributions	1,738,398,057

Investment income:

From investing activities:

Net appreciation in fair value of investments	841,228,583
Interest on fixed income securities	318,489,194
Alternative investment income	302,406,196
Income on real asset investments	81,796,812
Dividends on equity securities	68,885,815
Interest on short-term investments	20,204,165
Miscellaneous	<u>299,636</u>
	1,633,310,401
Less investment expenses	<u>174,112,484</u>
Net investment income from investing activities	<u>1,459,197,917</u>

From securities lending activities:

Securities lending income	31,364,960
Less: securities lending expenses, net	<u>28,662,740</u>
Net investment income from securities lending	<u>2,702,220</u>

Total net investment income	<u>1,461,900,137</u>
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Total additions, net	<u>3,200,298,194</u>
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Deductions:

Benefit payments	1,878,501,292
Refunds of member contributions	28,548,843
Administrative expenses	<u>18,000,678</u>
Total deductions	<u>1,925,050,813</u>

Net increase in fiduciary net position	1,275,247,381
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Fiduciary net position restricted for pensions:

Beginning of year	22,425,384,975
End of year	<u>\$ 23,700,632,356</u>

See accompanying notes to financial statements.

June 30, 2024

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 public employee retirement system established as a defined benefit pension plan 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. Since January 1, 1988, member contributions have been tax deferred under Section 414(h)(2) of the Internal Revenue Code, and Chapter 88 of the HRS (Chapter 88, HRS) mandates that employers pick up the employee contributions. These contributions are classified as member contributions in the financial statements. 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 is comprised of three pension classes for membership purposes and considered to be a single plan for accounting purposes because 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 for three membership classes known as the 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 classes or 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 Fire and (b) other employees. There are four major benefit structures for contributory class members based on employment group and membership date while there are two benefit structures for hybrid class members based on their membership date as discussed below. The noncontributory class has one benefit structure.

Notes to Financial Statements (continued)
Note A – Description of the ERS (continued)**1. General (continued)**

Employer, pensioner, and employee membership data as of March 31, 2024 are as follows:

Employers:	
State	1
County	<u>4</u>
Total employers	<u><u>5</u></u>
Pensioners and beneficiaries currently receiving benefits:	
Pensioners currently receiving benefits:	
Police and firefighters	4,331
All other employees	<u>46,058</u>
Total pensioners	<u><u>50,389</u></u>
Beneficiaries currently receiving benefits:	
Police and firefighters	429
All other employees	<u>5,002</u>
Total beneficiaries	<u><u>5,431</u></u>
Total pensioners and beneficiaries	<u><u>55,820</u></u>
Terminated vested members entitled to benefits but	
not yet receiving benefits:	
Police and firefighters	235
All other employees	<u>8,612</u>
Total terminated vested members	<u><u>8,847</u></u>
Inactive members	
Police and firefighters	1,061
All other employees	<u>27,495</u>
Total inactive members	<u><u>28,556</u></u>
Total terminated vested and inactive members	<u><u>37,403</u></u>
Active members:	
Vested:	
Police and firefighters	2,963
All other employees	<u>30,670</u>
Total vested members	<u><u>33,633</u></u>
Nonvested:	
Police and firefighters	1,828
All other employees	<u>29,876</u>
Total nonvested members	<u><u>31,704</u></u>
Total active members	<u><u>65,337</u></u>
Total membership	<u><u>158,560</u></u>

Note A – Description of the ERS (continued)**2. The Financial Reporting Entity**

As required by accounting principles generally accepted in the United States of America (GAAP), 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, 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 retirants 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 and fire and (b) all other employees. Employer contribution rates are subject to adjustment in certain situations based on the Pension Trust's funded status or actuarial investigations. The ERS performs an actuarial investigation of the experience at least once every three years, plus an annual actuarial valuation of the assets and liabilities of the funds of the Pension Trust. The Board 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 on August 8, 2022 as recommended by Gabriel, Roeder, Smith and Company (GRS) (from the experience study as of June 30, 2021, with most of the assumptions based on the period from July 1, 2016, through June 30, 2021) while the investment return assumption was adopted beginning with the 2016 valuation. See the Actuarial Section in the separately issued ERS Annual Comprehensive Financial Report (the ACFR) for all actuarial assumptions used.

*Notes to Financial Statements (continued)***Note A – Description of the ERS (continued)****3. Class Descriptions and Funding Policy (continued)**

Effective July 1, 2008, the statutory employer contribution rate for employees in the police and fire group (Police and Fire) increased from 15.75% to 19.70%, and the rate for employees in the all other employees group (All Other Employees) increased from 13.75% to 15.00%. Per legislation passed in 2011, the rate for Police and Fire 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 group to determine the required employer contributions. Administration of the Pension Trust is financed through contributions from the employers and employees (if applicable) and investment earnings.

Per Act 17 (SLH 2017), employer contribution rates from the State and counties are expected to increase pursuant to a phased-in contribution rate increase over four years beginning July 1, 2017. The rate for Police and Fire increased to 28.00% on July 1, 2017; 31.00% on July 1, 2018; 36.00% on July 1, 2019; and 41.00% on July 1, 2020; and the rate for All Other Employees increased to 18.00% on July 1, 2017; 19.00% on July 1, 2018; 22.00% on July 1, 2019; and 24.00% on July 1, 2020.

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 non-base pay increases included in their average final compensation. The additional contribution is equal to the actuarial present value of the additional benefits earned due to the “excessive” non-base pay increases.

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 changing to a noncontributory member or remain a contributory member. 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 employees that were contributory or noncontributory members were given the option to change to a hybrid class benefits structure 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.

Note A – Description of the ERS (continued)**3. Class Descriptions and Funding Policy (continued)**

The three membership classes provide a monthly retirement allowance (maximum allowance) equal to the benefit multiplier % (generally 1.25% to 2.25%), multiplied by the average final compensation (the AFC), multiplied by years of credited service. If a member earns service in a different benefit structure, 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 2.50% 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 2.5% of the original retirement allowance without a ceiling (2.50% of the original retirement allowance the first year, 5.00% the second year, 7.50% the third year, etc.). For new members hired after June 30, 2012, the postretirement annuity increase was decreased to 1.50% per year of the original retirement allowance without a ceiling (1.50% of the original retirement allowance the first year, 3.00% the second year, 4.50% 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.

*Notes to Financial Statements (continued)***Note A – Description of the ERS (continued)****3. Class Descriptions and Funding Policy (continued)**

All contributions, benefits, and eligibility requirements are governed by Chapter 88, HRS. For a more detailed summary of benefits for employees and a description of special provisions to groups of employees, refer to the Summary of Retirement Benefit Plan Provisions contained in the *Introductory Section* of the ACFR. All of the statutory member contributions discussed in this section are classified as “member contributions” with the adoption of GASB Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73*.

Contributory

Police officers, firefighters, and certain other members that are not covered by Social Security first hired prior to July 1, 2012 contribute 12.20% of their salary and receive a retirement benefit using the benefit multiplier of 2.50% for qualified service, up to a maximum of 80% of the 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 the 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 7.80% 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 5.00% per year under age 55 plus 4.00% per year under age 50. The benefit multiplier is 2.00% for employees covered by Social Security.

All other employees in the contributory class hired after June 30, 2012 are required to contribute 9.80% 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 5.00% per year under age 60. The benefit multiplier is 1.75% for employees covered by Social Security.

Note A – Description of the ERS (continued)**3. Class Descriptions and Funding Policy (continued)****Hybrid**

All other employees hired before July 1, 2012 are required to contribute 6.00% 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 benefits reduced by 5.00% per year under age 62. The benefit multiplier used to calculate retirement benefits is 2.00%. Hybrid members are covered by Social Security.

All other employees hired after June 30, 2012 are required to contribute 8.00% 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 5.00% per year under age 65. The benefit multiplier used to calculate retirement benefits is 1.75%. Hybrid members are covered by Social Security.

Noncontributory

All other employees are fully vested upon receiving 10 years of credited service and are covered by Social Security. 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 service. Early retirement is available at age 55 years and 20 years of credited service with benefits reduced by 6.00% 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. There is no age requirement to qualify for disability benefits.

Ordinary death benefits for contributory and noncontributory members require at least one year and 10 years of service, respectively. Ordinary death benefits for hybrid members require five years of service if hired prior to July 1, 2012 or 10 years of service if hired after June 30, 2012. There is no service requirement to qualify 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 as contributory, hybrid, or noncontributory membership. 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.

*Notes to Financial Statements (continued)***Note A – Description of the ERS (continued)****5. Other Post Employment Benefits (OPEB)**

In addition to the retirement benefits provided by the ERS Pension Trust, the participating employers, pursuant to Chapter 87A, HRS, provide certain healthcare and life insurance benefits for State and county qualified employees and retirees. The Hawaii Employer-Union Health Benefits Trust Fund (the 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.

Under Section 87A-33 of the HRS, 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 10 or more years of credited service.

Under Section 87A-34 of the HRS, 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 10 years of credited service.

Under Sections 87A-35 and 87A-33(a)(6) of the HRS, 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 10 and 15 years of credited service; (b) 75% of the base monthly contribution if the employee retired with between 15 and 25 years of credited service; and (c) 100% of the base monthly contribution if the employee retired with 25 or more years of credited service.

Under Section 87A-36 of the HRS, 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 10 and 15 years of credited service; (b) 75% of the base monthly contribution for a self-only plan if the employee retired with between 15 and 25 years of credited service; and (c) 100% of the base monthly contribution for a self-only plan if the employee retired with 25 or more years of credited service.

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

Note B – Summary of Significant Accounting Policies

A summary of the significant accounting policies consistently applied in the preparation of the accompanying financial statements 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 other governments, and/or other funds. The fiduciary fund type used by the ERS is a Pension Trust Fund. The fiduciary fund is considered a separate fiscal and accounting entity with a self-balancing set of accounts that comprise its assets, liabilities, equity, revenues 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.

The financial statements are prepared in conformity with GAAP using the accrual basis of accounting. Administrative expenses are financed exclusively with investment income.

2. Cash Equivalents

All highly liquid investments with an original maturity of three months or less when purchased are considered to be cash equivalents.

3. Investments

The ERS' investment policy, including the legal authority, is discussed in Note E.1, Investment Policy. Investments are reported at fair value. Refer to Note E.3, Investments, for the ERS' fair value disclosures.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on a the accrual basis. Dividend income is recorded on the ex-dividend date.

Realized and unrealized gains and losses are recorded in the accompanying financial statements based on the difference between the fair value of assets at the beginning of the fiscal year, or at the time of purchase for assets purchased during the fiscal year, and the related fair value on the day investments are sold with respect to realized gains and losses, or on the last day of the fiscal year for unrealized gains and losses.

4. Revenue Recognition - Contributions

Contributions from employers and members are recognized in the period in which the contributions are legally due.

5. Payment of Benefits

Benefits and refunds are recognized when due and payable in accordance with the terms of the Pension Trust.

*Notes to Financial Statements (continued)***Note B – Summary of Significant Accounting Policies (continued)****6. 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.

7. 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, as follows:

- a. Annuity Savings Reserves – Fixed at 4.50% regular interest rate for employees hired before July 1, 2011 and 2.00% regular interest rate for employees hired after June 30, 2011.
- b. Expense Reserves – To be credited with all money to pay the administrative expenses of the ERS.
- c. Pension Accumulation Reserves – To be credited with any remaining investment earnings.

8. Risk Management

The ERS reports liabilities, as discussed in Note G, Risk Management, related to certain types of losses (including torts, theft of, damage to, or destruction of assets, errors or omissions, workers' compensation, and acts of terrorism) when it is probable that the losses have occurred and the amount of those losses can be reasonably estimated.

9. Use of Estimates

In preparing financial statements in conformity with GAAP, 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 are 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 as of June 30, 2021, with most of the assumptions based on the period from July 1, 2016, through June 30, 2021.

Note B – Summary of Accounting Policies (continued)**10. Recently Issued Accounting Policies****GASB Statement No. 99**

The GASB issued Statement No. 99, *Omnibus*. The primary objectives of this statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing practice issues that have been identified during implementation and application of certain GASB statements. Certain requirements of this statement were effective immediately while other requirements are effective for reporting periods beginning after June 15, 2022 and June 15, 2023, respectively. The requirements of this statement did not have a material impact on the ERS' financial statements.

GASB Statement No. 100

The GASB issued Statement No. 100, *Accounting Changes and Error Corrections – an amendment of GASB Statement No. 62*. The primary objective of this statement is to enhance accounting and financial reporting requirements for accounting changes and error corrections to provide more understandable, reliable, relevant, consistent, and comparable information for making decisions or assessing accountability. The requirements of this statement were effective for the fiscal year ended June 30, 2024 and did not have a material effect on the ERS' financial statements.

GASB Statement No. 101

The GASB issued Statement No. 101, *Compensated Absences*. The primary objective of this statement is to better meet the information needs of financial statement users by updating the recognition and measurement guidance for compensated absences. The requirements of this statement are effective for reporting periods beginning after December 15, 2023. The ERS is currently evaluating the impact that this statement will have on its financial statements.

*Notes to Financial Statements (continued)***Note B – Summary of Accounting Policies (continued)****10. Recently Issued Accounting Policies (continued)****GASB Statement No. 102**

The GASB issued Statement No. 102, *Certain Risk Disclosures*. The primary objective of this statement is to provide users of government financial statements with information about risks related to a government's vulnerabilities due to certain concentrations or constraints that is essential to their analyses for making decisions or assessing accountability. The requirements of this statement are effective for reporting periods beginning after June 15, 2024. The ERS is currently evaluating the impact that this statement will have on its financial statements.

GASB Statement No. 103

The GASB issued Statement No. 103, *Financial Reporting Model Improvements*. The primary objective of this statement is to improve key components of the financial reporting model to enhance its effectiveness in providing information that is essential for decision making and assessing a government's accountability. The requirements of this statement are effective for reporting periods beginning after June 15, 2025. The ERS is currently evaluating the impact that this statement will have on its financial statements.

GASB Statement No. 104

The GASB issued Statement No. 104, *Disclosure of Certain Capital Assets*. The primary objective of this statement is to provide users of government financial statements with essential information about certain types of capital assets. The requirements of this statement are effective for reporting periods beginning after June 15, 2025. The ERS is currently evaluating the impact that this statement will have on its financial statements.

Note C – 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 Reserves

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

2. Annuity Savings Reserves

To accumulate members’ contributions (including member contributions “picked up” as employer contributions 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 Reserves or refunded to the member upon termination.

3. Expense Reserves

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.

Fiduciary net position restricted for pensions as of June 30, 2024 are as follows:

	<u>2024</u>
Pension accumulation reserves	\$ 19,697,793,542
Annuity savings reserves	3,989,784,815
Expense reserves	<u>13,053,999</u>
Total fiduciary net position restricted for pensions	<u><u>\$ 23,700,632,356</u></u>

*Notes to Financial Statements (continued)***Note D – Contributions**

The ERS' funding policy provides for periodic employer contributions expressed as a percentage of annual covered payrolls. 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, 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 three years. Employer contribution rates are a fixed percentage of compensation, including the normal cost plus amounts required to pay for the unfunded actuarial accrued liabilities. See Note A.3 Class Descriptions and Funding Policy for the effective statutory employer contribution rates.

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" non-base 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 non-base pay in their AFC amount.

Member contributions rates are statutorily established in accordance with Chapter 88, HRS, and are discussed in Note A.3, Class Descriptions and Funding Policy. 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). These contributions are classified as member contributions being paid by the member for ERS purposes.

Note E – Deposits and Investment 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 are limited to investment grade, short-term marketable securities.

Note E – Deposit and Investment Disclosures (continued)**1. Investment Policy (continued)**

The investment decisions are further dictated by the Investment Policy Statement, 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 with 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.

A formal asset-liability study is conducted every three-to-five years to verify or amend the plan's policy targets. The targets are designed to achieve a certain level of return, and associated level of risk, that is aligned with the plan's goals and objectives. The targets are evaluated on the basis of assets designated to each strategic class by the Board, rather than on a current invested position. The targets are pursued primarily by cash flow on a long-term basis and if significant changes occur within the economic and/or capital market environment according to the rebalancing guidelines. The targets are to be reviewed annually for reasonableness relative to significant economic and market changes.

The Board initiated and completed an asset-liability study during fiscal year 2023. As a result of the 2023 Asset-Liability Study, the Board adopted a new long-term strategic allocation policy which became effective on January 1, 2024. The new long-term strategic allocation policy maintained the two major strategic classes that were adopted as a result of the asset-liability study that began in fiscal year 2019 and have been in place since July 2020. In addition, the strategic class framework incorporated new naming conventions and improved definitions of sub-asset classes to better align with the ERS risk allocation and restructured certain invested opportunities to better align with their characteristics, while a few sub-classes were eliminated.

Notes to Financial Statements (continued)
Note E – Deposit and Investment Disclosures (continued)**1. Investment Policy (continued)**

As of June 30, 2024, the ERS was strategically invested in the following classes:

	Strategic Allocation (functional/risk-based classes) ^{1, 2, 3}
Broad Growth	70.0%
Diversifying Strategies	30.0%
Total	100.0%

¹ Uses an expected inflation of 2.4%.

² The strategic allocation is supported by a multitude of underlying sub-asset classes.

³ Actual allocations varied.

The ERS utilizes two high-level strategic classes (Broad Growth and Diversifying Strategies) for allocating assets and managing risk within the total portfolio. Both of these strategic classes contain sub-components that in-turn utilize asset classes and/or specific strategies for implementation. The Broad Growth class utilizes three sub-components (Global Equity, Global Credit, and Real Assets) which are ultimately invested in public and private equity, and private credit, real estate, agriculture, timber, and infrastructure. The Diversifying Strategies class is designed to be uncorrelated to the Broad

Note E – Deposit and Investment Disclosures (continued)**1. Investment Policy (continued)**

Growth class and it utilizes two sub-components (Liquid Defensive/ Diversifying, and Illiquid Diversifying). The Diversifying Strategies class utilizes a multitude of asset classes and strategies, including US defensive return capture, discretionary alpha, intermediate and long duration, systematic trend following, idiosyncratic return capture, and insurance linked assets, among others. The ERS may also hold opportunities and other investments if they are determined to be additive to the portfolio's risk/return posture.

Based on the 2023 asset-liability study and updated capital markets assumptions (as of June 30, 2024), the total fund was positioned to achieve a long-term return of approximately 7.4% with an annualized volatility of approximately 11.1% over a horizon of 10-20 years. The resulting new long-term strategic allocation policy came into effect in January 2024. The ERS will strategically invest in the following strategic asset classes:

Strategic Allocation (risk-based classes)	Strategic Class Weights	Expected Long- term Geometric Average Return ¹	Expected Volatility
Broad Growth	70.0%	8.4%	15.8%
Diversifying Strategies	30.0%	4.4%	5.3%
Total Portfolio	100.0%	7.4%	11.1%

¹ Uses an expected inflation of 2.4%

The implementation plan for the most recent long-term strategic policy was completed by the end of FY 2024 as follows.

Implementation Plan for Long-term Strategic Policy					
	6/30/2020	07/01/2020	07/01/2021	07/01/2022	01/01/2024
Broad Growth	68.0%	72.0%	67.5%	65.0%	70.0%
Principal Protection	8.0%	--	--	--	--
Real Return	8.0%	--	--	--	--
Crisis Risk Offset	16.0%	--	--	--	--
Diversifying Strategies	--	28.0%	32.5%	35.0%	30.0%
Total Portfolio	100.0%	100.0%	100.0%	100.0%	100.0%

Rate of Return

For the year ended June 30, 2024, the annual money-weighted return on pension plan investments, net of pension plan investment expense, was 6.6%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for changing amounts actually invested.

*Notes to Financial Statements (continued)***Note E – Deposit and Investment Disclosures (continued)****2. Cash and Cash Equivalents**

Cash and cash equivalents include 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, 2024, the carrying amount of deposits totaled \$67,023,479 and the corresponding bank balance was \$74,991,189, all of which was exposed to custodial credit risk.

Note E – Deposit and Investment Disclosures (continued)**3. Investments**

The following table shows the ERS' investments by investment type at fair value as of June 30, 2024.

Short-term instruments:		
Pooled and others	\$	749,512,823
Equity securities:		
Common stock		4,099,651,543
Equity funds		1,168,192,573
Preferred shares and other		9,518,881
Fixed income securities:		
U.S. Treasury bonds and notes		1,701,682,127
U.S. government agencies bonds		20,571,184
U.S. government agency mortgage backed		373,208,120
U.S. government-sponsored agency mortgage backed		56,728,380
U.S. corporate bonds		38,447,624
Non-U.S. corporate bonds		2,962,860
Convertible and Others		-
Fixed income funds		2,992,572,377
Derivatives financial investments:		
Forwards - Cash and short-term instruments		(1,970)
Futures - Debt securities		479,061
Swaps - Debt securities		13,327,181
Real assets investments:		4,261,689,706
Alternative investments		8,001,762,553
Total investments	\$	<u>23,490,305,023</u>
Short-term instruments for securities lending collateral pool	\$	<u>765,590,308</u>

*Notes to Financial Statements (continued)***Note E – Deposit and Investment Disclosures (continued)****3. Investments (continued)**

Investments are measured at fair value. The ERS categorizes its fair value measurements within the fair value hierarchy established by GAAP. Fair value is a market-based measurement of 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. A fair value measurement assumes that a transaction to sell an asset or transfer a liability takes place in either the principal market or most advantageous market (after taking into account transaction costs and transportation costs).

The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements).

- Level 1—Unadjusted quoted prices for identical instruments in active markets.
- Level 2—Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs are observable.
- Level 3—Valuations derived from valuation techniques in which significant inputs are unobservable.

If the fair value of an asset or a liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement. The categorization of investments within the hierarchy is based upon the pricing transparency of the instrument and should not be perceived as the particular investment's risk.

Fair Value Hierarchy Levels

Equity securities classified in level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities 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. Short-term investments and fixed income securities classified as Level 1 include U.S. Treasuries. Derivative financial instruments classified in Level 1 include certain options and futures which are valued using prices quoted in active markets for those securities.

Fixed income securities, credit default swaps, and invested securities lending collateral classified in level 2 have non-proprietary information that was readily available to market participants from multiple independent sources, which are known to be actively involved in the market. Pricing inputs may include market quotations, yields, maturities, call features and ratings.

Note E – Deposit and Investment Disclosures (continued)**3. Investments (continued)**

Preferred shares classified in Level 3 are private investments, thinly traded securities, where input data is sourced from instruments whose values are estimated, out of necessity, using unobservable inputs due to lack of comparable securities in the market place or are valued using discounted cash flows.

Real assets investments - real estate (direct investment) classified as Level 3 are individual properties 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). The valuation techniques vary based on investment type and involve a certain degree of expert judgment.

Investments Measured at the Net Asset Value (NAV)

Investments measured at NAV are not required to be categorized in the fair value hierarchy levels. The fair value of investments in certain fixed income funds, equity funds, real assets and alternative investments are based on the investments' NAV per share (or its equivalent).

Short-term investment funds, equity funds (not publicly traded), and fixed income funds (not publicly traded) are reported on their respective NAV. Fair value for these investments 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. Annual audits of the investments include a review of compliance with the investment company's valuation policies.

Real assets and alternative investments (pooled or commingled funds) are measured at 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 using valuation assumptions based on both market and property specific inputs, which are not observable and involve a certain degree of expert judgment. The valuation techniques vary based on investment type and involve a certain degree of expert judgment.

Note E – Deposit and Investment Disclosures (continued)

3. Investments (continued)

The following table shows the fair value hierarchy by investment type as of June 30, 2024.

		Fair Value Measurement Using		
		Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	<u>Total</u>			
Investments by Fair Value Level 6/30/2024				
<i>Short-term investments</i>				
Short-term bills and notes	\$ -	\$ -	\$ -	\$ -
<i>Equity securities</i>				
Common stocks	\$ 4,099,651,543	\$ 4,099,651,543	\$ -	\$ -
Preferred shares and other	9,518,881	9,476,041	-	42,840
Total equity securities	4,109,170,424	4,109,127,584	-	42,840
<i>Fixed income securities</i>				
U.S. Treasury bonds and notes	1,701,682,127	1,690,801,037	10,881,090	-
U.S. government agencies bonds	20,571,184	-	20,571,184	-
U.S. government agency mortgage backed	373,208,120	-	373,208,120	-
U.S. government-sponsored agency mortgage	56,728,380	-	56,728,380	-
Asset backed securities	-	-	-	-
U.S. corporate bonds	38,447,624	-	38,447,624	-
Non-U.S. government / agency bonds	-	-	-	-
Non-U.S. corporate bonds	2,962,860	-	2,962,860	-
Total fixed income securities	2,193,600,295	1,690,801,037	502,799,258	-
<i>Real asset - real estate (direct investment)</i>	52,300,000	-	-	52,300,000
Total investments (excluding derivatives), measured by fair value level	\$ 6,355,070,719	\$ 5,799,928,621	\$ 502,799,258	\$ 52,342,840
Investment Derivative Instruments				
Currency purchases forwards	\$ (1,970)	\$ -	\$ -	\$ (1,970)
Fixed income futures	479,061	479,061	-	-
Credit default swaps	13,327,181	-	13,327,181	-
Total investment derivative instruments	\$ 13,804,272	\$ 479,061	\$ 13,327,181	\$ (1,970)
Total investments measured by fair value level	\$ 6,368,874,991	\$ 5,800,407,682	\$ 516,126,439	\$ 52,340,870
Invested Securities Lending Collateral				
<i>Short-term instruments</i>				
Certificate of Deposit	\$ 158,247,976	\$ -	\$ 158,247,976	\$ -
Repurchase agreements	434,934,282	-	434,934,282	-
Global corporate notes	172,408,050	-	172,408,050	-
Total invested securities lending collateral	\$ 765,590,308	\$ -	\$ 765,590,308	\$ -

Notes to Financial Statements (continued)

Note E – Deposits and Investment Disclosures (continued)

3. Investments (continued)

Investments Measured at Net Asset Value (NAV)

<i>Short-term investments</i>	\$ 749,512,823
<i>Equity securities</i>	1,168,192,573
<i>Fixed income</i>	2,992,572,377
<i>Real assets - real estate</i>	2,172,212,285
<i>Real assets - other</i>	2,037,177,421
<i>Alternative investments - diversify strategy</i>	3,228,096,951
<i>Alternative investments - other</i>	<u>4,773,665,602</u>
Total investments measured at NAV	<u>\$ 17,121,430,032</u>

	June 30, 2024	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period (Days)
<i>Short-term investments (a)</i>	\$ 749,512,823	\$ -	Daily	1 day
<i>Equity securities (b)</i>	1,168,192,573	-	Daily	2 days
<i>Fixed income (c)</i>	2,992,572,377	817,120,000	Various	Various
<i>Real assets - real estate (d)</i>	2,172,212,285	843,872,000	Not eligible	n/a
<i>Real assets - other (d)</i>	2,037,177,421	479,401,000	Not eligible	n/a
<i>Alternative investments - traditional (e)</i>	4,773,665,602	2,330,816,000	Not eligible	n/a
<i>Alternative investments - div. strategies (f)</i>	<u>3,228,096,951</u>	<u>-</u>	Daily	1-2 days
Total investments measured at NAV	<u>\$ 17,121,430,032</u>	<u>\$ 4,471,209,000</u>		

- (a) Short-term investments – pooled and other primarily consist of four pooled funds, including two pooled funds to invest excess cash at the ERS’ custodian, The Bank of New York Mellon. NAV is 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.
- (b) Equity funds consist of five funds, including one fund that invests based on the all country world index. NAV is 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.

*Notes to Financial Statements (continued)***Note E – Deposits and Investment Disclosures (continued)****3. Investments (continued)**

- (c) Fixed income funds consist of 17 private market limited partnerships or limited liability companies to capitalize in multiple strategies that target investments on a global basis including, but not limited to, obligations of leveraged, financially troubled, or liquidating businesses or entities, bank loans, high yield bonds, securitized credit (including debt issued by asset-backed security offerings), derivatives (such as swap agreements), etc. NAV is 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.
- (d) Real assets investments (real estate and other) consist of limited partnerships, limited liability companies, or corporations, that are deemed to be investments, include 74 funds that primarily invest in U.S. real estate and 17 that invest in other real assets such as infrastructure, agriculture or other assets. 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 and are generally audited annually.
- (e) Alternative investments – diversifying strategies consist of 15 limited partnerships or limited liability companies to provide stability, diversification, and liquidity complements to the Broad Growth strategic class that produce uncorrelated returns during both crisis and non-crisis periods for Broad Growth assets. These investments focus on capital efficiency and employ certain financial mechanisms to target specific levels of volatility (e.g., derivatives-based leverage). This approach emphasizes capital efficiency thereby enabling the relatively small capital base of the Diversifying Strategies strategic asset class to offset a meaningful level of volatility inherent in the Broad Growth strategic asset class. The most significant element of NAV is the fair value of the investment holdings. These holdings are valued using valuation assumptions based on both market and property specific inputs, which are not observable and involve a certain degree of expert judgment and are generally audited annually. The ERS determines when redemptions and/or contributions are made.
- (f) Alternative investments - traditional consist of 249 limited partnerships or limited liability companies that invest in venture capital, growth equity, corporate finance/buyout, special situations, mezzanine debt, distressed debt, co/direct investments or specialty investments. 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 and are generally audited annually. Redemptions are controlled by the general partner/investment manager.

Notes to Financial Statements (continued)

Note E – Deposits and Investment Disclosures (continued)**3. Investments (continued)**Reconciliation of Investments Measured by Fair Value Level and by NAV to the Statement of Fiduciary Net Position

	<u>Investments by Fair Value Level</u>	<u>Investments Measured by the NAV</u>	<u>Derivative Investments by Fair Value Level</u>	<u>Statement of Fiduciary Net Position</u>
Assets				
Short-term investments	\$ -	\$ 749,512,823	\$ (1,970)	\$ 749,510,853
Equity securities	4,109,170,424	1,168,192,573	-	5,277,362,997
Fixed income securities	2,193,600,295	2,992,572,377	13,806,242	5,199,978,914
Real asset investments	52,300,000	4,209,389,706	-	4,261,689,706
Alternative investments	-	8,001,762,553	-	8,001,762,553
	<u>\$ 6,355,070,719</u>	<u>\$ 17,121,430,032</u>	<u>\$ 13,804,272</u>	<u>\$ 23,490,305,023</u>
Invested securities lending collateral	<u>\$ 765,590,308</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 765,590,308</u>

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 for derivative financial instruments is discussed in Note E.10, Derivative Financial Instruments, while policies related to credit risk for the securities lending program are discussed in Note E.9, Securities Lending.

Risk Based Asset Class

The credit portfolio consists of investment strategies and assets that are largely exposed and/or susceptible to various collateral types (corporate cash flows, mortgages, various credit receivables, etc.) that produce relatively high levels of income. These investments may be traded in public markets or sourced through private issuance. Such investments typically contain relatively lower levels of risk and exhibit lower volatility than other Broad Growth components but do have exposure to growth-related characteristics. In addition, periodic income will likely be a material portion of the credit portfolio's investment return. The overall objectives of the Diversifying Strategies strategic asset class are to provide stability, diversification, and liquidity complements to the Broad Growth strategic asset class. This class can help diversify the Broad Growth strategic asset class during challenging periods, such as material equity market drawdowns. Individual investment managers have specific investment policy guidelines, limits, and/or requirements for their portfolio, that may include limits on, but not limited to, security type, sectors, currency, duration, credit rating and issue amounts.

*Notes to Financial Statements (continued)***Note E – Deposits and Investment Disclosures (continued)****4. Credit Risk (continued)**

The ERS may invest, across the Broad Growth and Diversifying Strategies asset classes, in directly held securities, partnerships/fund of ones or commingled funds which invest in liquid and less liquid corporate credit across the capital structure as well as opportunistically provide private financing. Investment instruments and/or strategies include but are not limited to the purchase and/or origination of investment grade, broadly syndicated high yield bonds, broadly syndicated leveraged loans, narrowly syndicated private debt (“club deals”), collateralized loan obligations (“CLO”) debt and equity, municipal securities, capital solutions and convertibles. Other investment instruments and/or strategies include but are not limited to U.S. Treasuries and government-backed, high-quality, very liquid agencies, the purchase and/or origination of legacy non-agency residential mortgage-backed securities, asset backed securities, agency risk transfer, FNMA/Freddie preferred equity, non-qualified mortgage, origination, re-performing loans, credit tenant leases, bridge financings, and other types. Derivative financial instruments may be used for managing interest rate, volatility, term structure, country, currency, sector exposures, etc. as authorized by their mandate.

Notes to Financial Statements (continued)

Note E – Deposits and Investment Disclosures (continued)

4. Credit Risk (continued)

A table of the ERS' fixed income securities as of June 30, 2024 is below. All directly held fixed income investment securities (excluding funds) are rated as investment grade of Baa or better (average rating by S&P, Moody's and/or Fitch). All short-term investments, not held in a pooled investment, are rated A1/P1 or better.

Credit Ratings - Average rating by S&P, Moodys and Fitch as of June 30, 2024

Ratings	US Govt Agency	US Govt sponsored- agency mortgage- backed	US corporate bonds	Non-US corporate bonds	Total
AAA	\$ -	\$ -	\$ 218,117	\$ -	\$ 218,117
AA1	20,571,184	373,208,120	710,603	-	394,489,907
AA3	-	-	2,422,630	-	2,422,630
A1	-	-	8,038,703	2,962,860	11,001,563
A2	-	-	8,454,628	-	8,454,628
A3	-	-	13,209,070	-	13,209,070
BAA1	-	-	4,260,393	-	4,260,393
BAA2	-	-	1,133,480	-	1,133,480
	<u>\$ 20,571,184</u>	<u>\$ 373,208,120</u>	<u>\$ 38,447,624</u>	<u>\$ 2,962,860</u>	<u>435,189,788</u>
		US Treasury Bonds and Notes			1,701,682,127
		US Government agency - Government National			
		Mortgage Association (GNMAs) mortgage-backed			56,728,380
		Subtotal directly held investments			2,193,600,295
		Fixed income funds			2,992,572,377
		Derivatives (debt securities)			13,806,242
		Total fixed income securities in Investments			<u>\$ 5,199,978,914</u>

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 \$74,991,189 in cash and securities exposed to custodial credit risk as of June 30, 2024.

*Notes to Financial Statements (continued)***Note E – Deposits and Investment Disclosures (continued)****6. Concentrations of Credit Risk**

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

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 the manager shall not hold more than the benchmark weight plus 2 percentage points.)

At June 30, 2024, 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, 2024, 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.

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Note E – Deposits and Investment Disclosures (continued)**7. Interest Rate Risk**

The effective duration of fixed income investments by security type (excluding derivatives and fixed income funds) are as follows:

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

	Fair Value	Weighted Modified Duration (years)
Fixed Income Securities		
U.S. Treasury bonds and notes	\$ 1,701,682,127	7.8
U.S. government agencies bonds	20,571,184	2.0
U.S. government agency mortgage-backed	373,208,120	4.6
U.S. government-sponsored agency mortgage-backed	56,728,380	6.0
U.S. corporate bonds	38,447,624	5.5
Non-U.S. corporate bonds	2,962,860	6.8
Total	\$ <u>2,193,600,295</u>	7.1

Notes to Financial Statements (continued)

Note E – Deposits and Investment Disclosures (continued)

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 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 derivative financial instruments must be rated A or equivalent. Derivative financial instruments are discussed in more detail in Note E.10, Derivative Financial Instruments.

The following table summarizes the ERS' exposure to foreign currency risk in U.S. dollars as of June 30, 2024 (securities denominated in U.S. dollars are not presented.)

	Cash and Short		Derivatives		Equities		Grand Total	
	Term Instruments							
Australian dollar	\$	164,304	\$	38,631	\$	31,124,244	\$	31,327,179
Brazilian real		7,386		-		16,221,638		16,229,024
Canadian dollar		660,889		(293,738)		111,453,074		111,820,225
Chilean peso		4,075		-		3,600,156		3,604,231
Chinese Yuan Renminbi		-		-		3,691,836		3,691,836
Czech koruna		-		-		208,699		208,699
Danish krone		83,136		(27,603)		35,066,035		35,121,568
Euro currency unit		303,377		(130,416)		334,046,610		334,219,571
Hong Kong dollar		186,377		(99,084)		53,757,264		53,844,557
Hungarian forint		-		-		293,310		293,310
Indian Rupee		7,805		-		91,351,206		91,359,011
Indonesian rupiah		1,000		-		1,027,085		1,028,085
Israeli shekel		391		-		210,041		210,432
Japanese yen		505,566		818,535		177,841,262		179,165,363
Malaysian ringgit		426		-		1,700,167		1,700,593
Mexican peso		321,975		24,464		4,335,893		4,682,332
New Taiwan dollar		561,562		-		103,374,363		103,935,925
New Zealand dollar		-		-		2,649,063		2,649,063
Norwegian krone		(6)		(38,007)		1,833,504		1,795,491
Polish zloty		-		-		593,024		593,024
Pound sterling		472,069		(141,018)		239,070,368		239,401,419
Russian ruble (new)		-		-		44		44
Singapore dollar		12,467		-		1,480,175		1,492,642
South African rand		39,678		-		1,955,191		1,994,869
South Korean won		480		-		20,168,444		20,168,924
Swedish krona		92,230		-		18,536,310		18,628,540
Swiss franc		120,130		62,912		53,429,732		53,612,774
Thai baht		-		-		364,580		364,580
Turkish lira		-		(22,547)		1,136,479		1,113,932
Total	\$	3,545,317	\$	192,129	\$	1,310,519,797	\$	1,314,257,243

Note E – Deposits and Investment Disclosures (continued)**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, 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, 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, thus only cash received as collateral is reported on the financial statements in accordance with accounting standards. 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 denominated in U.S. dollars or whose primary trading market was located in the U.S., 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 U.S., 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 made on behalf of the ERS. Also, the ERS and the borrowers maintain 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 in accordance with the ERS investment policies and procedures as discussed in Note E.1, Investment Policy. 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, 2024 was 117 days.

At June 30, 2024, 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	Cash Collateral	Noncash Collateral
U.S. fixed income	\$ 1,220,469,091	\$ 475,834,867	\$ 834,870,514
U.S. equities	252,335,968	242,227,115	16,537,406
International equities	141,598,871	47,528,326	105,922,882
	<u>\$ 1,614,403,930</u>	<u>\$ 765,590,308</u>	<u>\$ 957,330,802</u>

*Notes to Financial Statements (continued)***Note E – Deposits and Investment Disclosures (continued)****10. Derivative Financial Instruments**

Derivatives are financial 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 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, as discussed below.

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, 2024 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.

Note E – Deposits and Investment Disclosures (continued)**10. Derivative Financial Instruments (continued)**

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.

The following table summarizes the ERS' investments in derivative securities and contracts held at June 30, 2024 with the related maturity information:

Asset categories		Notional values	Market value	Maturity (Range from)
Forwards	Currency purchases	\$ -	\$ (1,970)	0.0 yrs
Futures	Fixed income contracts	626,416,384	479,061	0.1 to 0.5 yrs
Swaps	Credit default swaps	-	13,327,181	5.0 yrs
Grand Total		\$ 626,416,384	\$ 13,804,272	

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/(depreciation) in fair value of securities in the statement of changes in fiduciary net position. Refer to the table above for the net notional value of futures contracts at June 30, 2024.

Notes to Financial Statements (continued)
Note E – Deposits and Investment Disclosures (continued)**10. Derivative Financial Instruments (continued)****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. 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. 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/(depreciation) 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.

On June 30, 2024, credit ratings of the counterparty for ERS' investments in derivatives were as follows:

<u>Counterparty</u>	<u>S&P's Rating</u>	<u>Fair Value</u>
Intercontinental Exchange Inc	A-	\$ 13,327,181
Exchange traded derivatives	n/a	<u>477,091</u>
		<u><u>\$ 13,804,272</u></u>

Note F – Pension Liability**1. Net Pension Liability**

The components of the net pension liability of the ERS at June 30, 2024 were as follows:

Total pension liability	\$37,849,517,735
Less: plan fiduciary net position	23,700,632,356
Net pension liability	<u>\$14,148,885,379</u>
Plan fiduciary net position as a percentage of total pension liability	62.62%
Net pension liability as a percentage of covered payroll	285.94%

Multi-year 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 section, which follows the notes to financial statements.

2. Summary of Actuarial Assumptions

The total pension liability was determined using the provisions of the GASB Statements No. 67 and No. 82 actuarial valuation as of June 30, 2024. These GASB rules only define pension liability for financial reporting purposes. The actuarial assumptions were based on the results of an experience study as of June 30, 2021, with most of the assumptions based on the period from July 1, 2016, through June 30, 2021.

Summary of Actuarial Valuation as of June 30, 2024 follows:

Valuation date	June 30, 2024
Actuarial cost method	Entry Age Normal
Amortization method	Level percent, open
Actuarial assumptions:	
Inflation assumption	2.50%
Investment rate of return, including inflation at 2.50%	7.00%
Payroll growth rate:	3.50%
Projected salary increases, including inflation at 2.50%	
- Police and fire employees	5.00% to 6.00%
- General employees	3.75% to 6.75%
- Teachers	3.75% to 6.75%
Cost of living adjustments (COLAs)	
- COLAs are not compounded; and are based on original pension amounts.	
- Membership date prior to July 1, 2012	2.5%
- Membership date after June 30, 2012	1.5%

Notes to Financial Statements (continued)
Note F – Pension Liability (continued)**2. Summary of Actuarial Assumptions (continued)**

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

Active Members Mortality Rates:

Multiples of the Pub-2010, Employee Tables for active employees based on the occupation of the member as follows:

<u>Type</u>	<u>General Employees</u>	<u>Teachers</u>	<u>Police and Firefighters</u>
	<u>Male & Female</u>	<u>Male & Female</u>	<u>Male & Female</u>
Ordinary	94%	92%	80%
% of Ordinary Chosing Annuity	41%	52%	24%
Duty Related	6%	8%	20%

Post-Retirement Mortality Rates are:

Healthy retirees: The 2022 Public Retirees of Hawaii mortality tables. The rates are projected on a fully generational basis by Scale MP from the year 2022 (with immediate convergence) and with multiplier and setbacks based on plan and group experience. The following are sample rates of the base table as of 2022 with the corresponding multipliers:

Healthy Annuitant Mortality Rates Before Projection (Multiplier Applied)						
<u>Age</u>	<u>General Employees</u>		<u>Teachers</u>		<u>Police and Firefighters</u>	
	<u>Males</u>	<u>Females</u>	<u>Males</u>	<u>Females</u>	<u>Males</u>	<u>Females</u>
50	0.2094%	0.1276%	0.1698%	0.0951%	0.2421%	0.1130%
55	0.3215%	0.1687%	0.2883%	0.1596%	0.3473%	0.1633%
60	0.5570%	0.3095%	0.4672%	0.2467%	0.6179%	0.2799%
65	0.8041%	0.4488%	0.7256%	0.4063%	0.8426%	0.4283%
70	1.2621%	0.7066%	1.0762%	0.6015%	1.4172%	0.6565%
75	2.0700%	1.0964%	1.7879%	0.9358%	2.3227%	1.0121%
80	3.5996%	2.1275%	3.0429%	1.6565%	4.1824%	1.8863%
85	6.5891%	4.1569%	5.5564%	3.2698%	7.6513%	3.6977%
90	11.9340%	8.3647%	10.1056%	6.5007%	13.6689%	7.3991%
Multiplier	102%	98%	97%	101%	93%	100%
Setback	---	-1	1	1	-2	---

Notes to Financial Statements (continued)
Note F – Pension Liability (continued)**2. Summary of Actuarial Assumptions (continued)**

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection:

Life Expectancy for an Age 65 Retiree in Years					
Gender	2025	Year of Retirement		2040	2045
		2030	2035		
General Retirees					
Male	22.8	23.2	23.5	23.9	24.2
Female	26.3	26.6	26.9	27.2	27.5
Teachers					
Male	24.1	24.5	24.9	25.2	25.5
Female	28.0	28.3	28.6	28.9	29.2
Police and Firefighters					
Male	21.8	22.1	22.4	22.8	23.1
Female	27.1	27.4	27.7	28.0	28.3

Disabled retirees: Base table for healthy retiree's occupation, set forward three years, generational projection using the MP projection table from the year 2022 with immediate convergence. Minimum mortality rate of 3.5% for males and 2.5% for females.

Notes to Financial Statements (continued)
Note F – Pension Liability (continued)**2. Summary of Actuarial Assumptions (continued)**

The long-term expected rate of return on pension plan investments was determined using a "top down approach" of the Client-Constrained Simulation-based Optimization Model (a statistical technique known as "resampling with replacement" that directly keys in on specific plan-level risk factors as stipulated by the ERS Board) in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are then combined to produce the long-term expected rate of return by weighting the expected future nominal rates of return (real returns + inflation) by the target asset allocation percentage. The rate of returns based on ERS' investment consultant as of June 30, 2024, are summarized in the following table (a new asset/liability study for the ERS was completed in June 2023 that is effective for FY 2024):

Classes	Strategic Class Weights	Long-Term Expected Geometric Rate of Return	Volatility
Broad Growth:			
Public equity	20.0%	7.2%	17.0%
Private equity	19.0%	9.9%	25.0%
Liquid credit	4.0%	6.5%	10.0%
Private credit	8.0%	9.2%	15.0%
Real estate	9.0%	6.3%	16.2%
Infrastructure	7.0%	7.3%	17.8%
Timber/agriculture/infrastructure	3.0%	5.3%	11.4%
Diversifying Strategies:			
Systematic trend following	8.0%	3.8%	15.0%
Long US treasuries	4.0%	4.3%	12.0%
Reinsurance	14.0%	4.0%	3.0%
Reinsurance	4.0%	5.3%	7.0%
	<u>100.00%</u>		

Note F – Pension Liability (continued)**2. Summary of Actuarial Assumptions (continued)**

The ERS utilizes two high-level strategic classes (Broad Growth and Diversifying Strategies) for allocating assets and managing risk within the total portfolio. Both of these strategic classes contain sub-components that in-turn utilize asset classes and/or specific strategies for implementation. The Broad Growth class utilizes three sub-components (Global Equity, Global Credit, and Real Assets) which are ultimately invested in public equity, options-based equity, credit fixed income, private real assets, and private equity. The Diversifying Strategies class is designed to be uncorrelated to the Broad Growth class and it utilizes two sub-components (Liquid Defensive/Diversifying and Illiquid Diversifying). The Diversifying Strategies class utilizes a multitude of asset classes and strategies, including US treasury and agency bonds, inflation-linked treasury bonds, systematic trend following, alternative risk premia, global macro, insurance-linked securities, relative value strategies, and niche private assets, among others. The ERS may also hold opportunities and other investments if they are determined to be additive to the portfolio's risk/return posture.

Single Discount Rate

A single discount rate of 7.00% was used to measure the total pension liability as of June 30, 2024 and was based on the expected rate of return on pension plan investments of 7.00%. 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 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 as of June 30, 2024, calculated using a single discount rate of 7.00%, 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 (6.00%) or 1-percentage-point higher (8.00%) than the current discount rate.

1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
\$19,104,950,116	\$14,148,885,379	\$10,043,774,393

*Notes to Financial Statements (continued)***Note G – 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; workers' compensation; and acts of terrorism. 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, 2024. 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.

Note H – 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 \$4,471,209,000 as of June 30, 2024, consisting of \$817,120,000 for fixed income funds, \$1,323,273,000 for real assets investments, and \$2,330,816,000 for alternative investments.

Note I – 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.

Note J – Subsequent Events

Between March 4, 2020, and March 25, 2022, State and county employers declared COVID-19 Emergencies (dates vary by employer agency) to control the spread of COVID-19 and provide for the health, safety, and welfare of the people of the State. Union and employee organizations, representing individuals employed by the State and county employers, requested Temporary Hazard Pay (THP) on behalf of State and county employees (Affected Employees) designated to perform essential functions during the COVID-19 pandemic. Subsequently, arbitration/litigation was initiated by these parties to settle claims for THP. Some of the State and county employer agencies/employees reached settlement/arbitration agreements, that represents only a portion of total number of employees during COVID-19 Emergencies.

Pursuant to HRS §88-21.5, only THP payments to Affected Employees whose ERS membership dates were before July 1, 2012, are considered ERS eligible compensation, that are subject to ERS employer and member contributions. (THP payments are not considered eligible compensation for individuals whose ERS membership date is after June 30, 2012.)

For those employees (and retirees) who have not settled and/or received their payments as of March 31, 2024, no adjustments have been made by the actuary to their individual liabilities as of the valuation date. The impact of the THP payments will be incorporated into their liabilities in the 2025 (and future) valuations. However, because the ERS has accrued the contributions for the known fiscal year 2025 THP payments in ERS' 2024 financial statements, the actuary incorporated an offsetting liability equal to those accrued contributions in the actuarial valuation (as a minimum impact).

ERS accrued the employer and member contributions in ERS' 2024 financial statements for the fiscal year 2025 THP payments, known as of November 2024. THP claims/litigations for most county and several State employer agencies/employees have not been settled. The ERS is currently unable to predict with reasonable certainty the magnitude of (a) ERS' potential liability and (b) amount of contributions due to the ERS as a result of the remaining THP claims litigations.

- While not all of the THP payments were known as of the actuarial valuation report dated January 14, 2025, the ERS' actuary has estimated that the possible impact of these payments will be to increase the pension liability by \$240 million and increase the funding period between 6 to 12 months.

○

The ERS has evaluated subsequent events through September 8, 2025, the date at which the financial statements were available to be issued, and determined there are no other items to disclose.

Required Supplementary Information - Unaudited

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

As of and for the Years Ended June 30, 2015 to 2024

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
A. Total pension liability										
1. Service Cost	\$437,901,029	\$484,278,499	\$576,724,568	\$584,470,193	\$619,504,278	\$626,699,489	\$642,140,242	\$613,550,345	\$665,262,225	\$753,649,057
2. Interest on the Total Pension Liability	1,693,252,684	1,748,619,873	1,894,622,190	1,976,275,120	2,063,885,936	2,164,804,653	2,252,271,074	2,349,503,644	2,397,116,921	2,495,354,170
3. Changes of benefit terms	-	-	-	-	-	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(192,816,757)	297,534,219	61,179,390	124,753,379	221,473,495	71,837,371	228,048,119	(361,275,093)	161,224,056	282,947,390
5. Changes of assumptions	261,213,541	2,915,922,677	-	-	60,320,037	-	-	(154,960,000)	-	-
6. Benefit payments	(1,170,744,770)	(1,232,589,353)	(1,306,788,954)	(1,395,881,342)	(1,469,634,809)	(1,545,589,761)	(1,651,431,372)	(1,738,751,492)	(1,795,410,787)	(1,878,501,292)
7. Refunds	(10,507,888)	(12,927,672)	(16,340,290)	(20,846,500)	(16,502,635)	(22,443,593)	(23,618,435)	(24,454,256)	(26,353,782)	(28,548,843)
8. Net change in total pension liability	\$1,018,297,839	\$4,200,838,243	\$1,209,396,904	\$1,268,770,850	\$1,479,046,302	\$1,295,308,159	\$1,447,409,628	\$683,613,148	\$1,401,838,633	\$1,624,900,482
9. Total pension liability – beginning	22,220,097,547	23,238,395,386	27,439,233,629	28,648,630,533	29,917,401,383	31,396,447,685	32,691,755,844	34,139,165,472	34,822,778,620	36,224,617,253
10. Total pension liability – ending	\$23,238,395,386	\$27,439,233,629	\$28,648,630,533	\$29,917,401,383	\$31,396,447,685	\$32,691,755,844	\$34,139,165,472	\$34,822,778,620	\$36,224,617,253	\$37,849,517,735
B. Plan fiduciary net position										
1. Contributions – employer	\$717,792,981	\$756,558,222	\$781,244,218	\$847,595,466	\$922,635,334	\$1,098,589,013	\$1,281,558,696	\$1,242,139,095	\$1,274,221,056	\$1,396,331,977
2. Contributions – employer (picked-up employee contributions)	221,909,859	235,079,968	249,211,751	257,294,033	270,764,670	284,142,994	299,473,128	292,422,087	309,509,309	341,769,694
3. Contributions – employee	1,595,560	1,721,893	1,492,316	2,133,901	2,458,908	3,255,037	1,153,318	605,473	251,744	296,386
4. Net investment income	556,436,475	(169,368,110)	1,934,512,507	1,225,572,599	932,696,412	358,282,664	4,662,225,761	164,559,035	826,902,875	1,461,900,137
5. Benefit payments	(1,170,744,770)	(1,232,589,353)	(1,306,788,954)	(1,395,881,342)	(1,469,634,809)	(1,545,589,761)	(1,651,431,372)	(1,738,751,492)	(1,795,410,787)	(1,878,501,292)
6. Refunds	(10,507,888)	(12,927,672)	(16,340,290)	(20,846,500)	(16,502,635)	(22,443,593)	(23,618,435)	(24,454,256)	(26,353,782)	(28,548,843)
7. Pension Plan Administrative Expense	(14,032,964)	(13,960,587)	(14,986,159)	(15,784,490)	(13,798,866)	(17,782,865)	(19,049,861)	(17,497,621)	(18,549,472)	(18,000,678)
8. Other	-	-	-	-	-	-	-	-	-	-
9. Net change in plan fiduciary net position	\$302,449,253	(\$435,485,639)	\$1,628,345,389	\$900,083,667	\$628,619,014	\$158,453,489	\$4,550,311,235	(\$80,977,679)	\$570,570,943	\$1,275,247,381
10. Fiduciary net position – beginning	14,203,015,303	14,505,464,556	14,069,978,917	15,698,324,306	16,598,407,973	17,227,026,987	17,385,480,476	21,935,791,711	21,854,814,032	22,425,384,975
10. Fiduciary net position – ending	\$14,505,464,556	\$14,069,978,917	\$15,698,324,306	\$16,598,407,973	\$17,227,026,987	\$17,385,480,476	\$21,935,791,711	\$21,854,814,032	\$22,425,384,975	\$23,700,632,356
C. Net pension liability ending (A10 - B10)	\$8,732,930,830	\$13,369,254,712	\$12,950,306,227	\$13,318,993,410	\$14,169,420,698	\$15,306,275,368	\$12,203,373,761	\$12,967,964,588	\$13,799,232,278	\$14,148,885,379
D. Fiduciary net position as a percentage of the total pension liability	62.42%	51.28%	54.80%	55.48%	54.87%	53.18%	64.25%	62.76%	61.91%	62.62%
E. Covered payroll	\$3,995,447,345	\$4,112,227,306	\$4,243,521,876	\$4,256,052,840	\$4,376,216,753	\$4,481,443,808	\$4,667,346,006	\$4,483,686,505	\$4,674,478,467	\$4,948,188,592
F. Net pension liability as a percentage of covered payroll	218.57%	325.11%	305.18%	312.94%	323.78%	341.55%	261.46%	289.23%	295.20%	285.94%

See accompanying notes to required supplementary information and independent auditors' report.

Required Supplementary Information – Unaudited (continued)

Schedule of the Employers' Net Pension Liability

June 30, 2015 to June 30, 2024

Fiscal year ended June 30,:	Total Pension Liability	Fiduciary Net Position	Net Pension Liability	Fiduciary Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a Percentage of Covered Payroll
2015	\$23,238,395,386	\$14,505,464,556	\$8,732,930,830	62.42%	\$3,995,447,345	218.57%
2016	\$27,439,233,629	\$14,069,978,917	\$13,369,254,712	51.28%	\$4,112,227,306	325.11%
2017	\$28,648,630,533	\$15,698,324,306	\$12,950,306,227	54.80%	\$4,243,521,876	305.18%
2018	\$29,917,401,383	\$16,598,407,973	\$13,318,993,410	55.48%	\$4,256,052,840	312.94%
2019	\$31,396,447,685	\$17,227,026,987	\$14,169,420,698	54.87%	\$4,376,216,753	323.78%
2020	\$32,691,755,844	\$17,385,480,476	\$15,306,275,368	53.18%	\$4,481,443,808	341.55%
2021	\$34,139,165,472	\$21,935,791,711	\$12,203,373,761	64.25%	\$4,667,346,006	261.46%
2022	\$34,822,778,620	\$21,854,814,032	\$12,967,964,588	62.76%	\$4,483,686,505	289.23%
2023	\$36,224,617,253	\$22,425,384,975	\$13,799,232,278	61.91%	\$4,674,478,467	295.20%
2024	\$37,849,517,735	\$23,700,632,356	\$14,148,885,379	62.62%	\$4,948,188,592	285.94%

See accompanying notes to required supplementary information and independent auditors' report.

Schedule of Investment Returns

Years Ended June 30, 2015 to 2024

<u>Fiscal Year</u>	<u>Annual Money- Weighted Rate of Return</u>
2015	4.0%
2016	-1.2%
2017	13.7%
2018	7.8%
2019	5.7%
2020	2.1%
2021	26.9%
2022	0.8%
2023	3.8%
2024	6.6%

See accompanying notes to required supplementary information and independent auditors' report.

June 30, 2024

Note A - Description

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

Note B – Significant Factors Affecting Trends in Actuarial Information***2022 Changes in Actuarial Assumptions***

The following changes were made to the actuarial assumptions as of June 30, 2021 to June 30, 2022:

- The administrative expenses assumption was increased from 0.35% to 0.40 %.
- The general wage inflation assumption represents the average increase in wages in the general economy and is used to index salaries for each cohort of new entrants in projections. The general productivity component of the general wage inflation assumption for General Employees and Teachers decreased from 1.00% to 0.50%, that now yields a nominal assumption of 3.00%. There was no change to the assumption for Police and Firefighters employees.
- The assumed salary increase schedules increased for all employees. These schedules include an ultimate component for general wage inflation that may add on additional increases for individual merit (which would include promotions) and then an additional component for step rates based on service. The schedules of assumed salary increase, that are the same, for General Employees and Teachers increased to 4.66%, from 4.41% for General Employees and from 4.37% for Teachers; while Police and Firefighters Employees schedules increased to 5.78% from 5.57%.
- Pre-retirement mortality rates increased for Police and Firefighters Employees.
- Retiree mortality is updated to the 2022 Public Retirees of Hawaii mortality tables. The rates are projected on a fully generational basis by the long-term rates of scale UMP from the year 2022 and with multiplier and setbacks based on plan and group experience.
 - While there is no change to the assumption that mortality rates will continue to improve in the future using a fully generational approach, the improvement scale used to project future improvement is updated to the ultimate values of the most recently published Scale MP2021. Further adjustments are applied to this set of base tables based on occupation (General Employees, Teachers, and Public Safety).

*Notes to Required Supplementary Information – Unaudited (continued)***Note B – Significant Factors Affecting Trends in Actuarial Information (Continued)*****2019 Changes in Actuarial Assumptions***

The following changes were made to the actuarial assumptions as of June 30, 2018 to June 30, 2019:

- The assumed salary increase schedules continues to include an ultimate component for general wage inflation that may add on additional increases for individual merit (which would include promotions) and then an additional component for step rates based on service. There were no changes for General Employees and Teachers. The overall impact increased for salary rate increase rates received for most Police and Firefighters over their career due to extending the 2-year step schedule to 25-years.
- Mortality rates generally decreased due to the continued improvements in using a fully generational approach and Scale BB (published by the Society of Actuaries), although mortality rates increased in certain age groups across all employment groups.
- The rates of disability of active employees increased for all General Employees and Teachers, and for Police and Firefighters from duty-related reasons.
- There were minor increases in the retirement rates for members in certain groups based on age, employment group and/or membership class.

2016 Changes in Actuarial Assumptions

The following changes were made to the actuarial assumptions as of June 30, 2015 to June 30, 2016:

- The investment rate of return assumption was decreased from 7.65% to 7.00%.
- Change the investment return assumption from net of all expenses to net of only investment expenses, add explicit charge for administrative expenses (0.35% of pay).
- The inflation assumption was decreased from 3.00% to 2.50%.
- Decrease the wage inflation (or employer budget growth) assumption from 4.00% to 3.50%.
- The inflation component of salary increase rates decreased for all groups. The salary increase rates were changed to reflect a smaller productivity component for Teachers and Police and Firefighters. The service based component generally increased for most General Employees, decreased for most Teachers, and remain unchanged for most Police and Firefighters. The overall impact decreased assumed salary rate increase rates for all General Employees and Teachers, while remaining unchanged for almost all Police and Firefighters.

Note B – Significant Factors Affecting Trends in Actuarial Information (Continued)***2016 Changes in Actuarial Assumptions (continued)***

- The rates of mortality for active employees were decreased.
- The rates of mortality for healthy retirees and beneficiaries for most employee groups were decreased, adding an explicit assumption for continued future mortality improvement (generational approach).
- The rates of mortality for disabled retirees for most employee groups were decreased.
- The rates of disability of active employees increased for all General Employees, for Police and Firefighters from duty-related reasons and for Teachers from non-duty-related reasons.
- The rates of termination assumption for all employee groups was changed from separate male and female by employee group to a combined male and female by employee group. The rate of terminations for Police and Firefighters was increased. The rate of terminations for General Employees in the first six years of service decreased, and remains unchanged for other General Employees. After six years of service, the rates of termination generally increased for Teachers, and remained unchanged for other Teachers.

2015 Changes in Actuarial 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.

Schedule 1

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

Year ended June 30, 2024

	2024			
	Pension Accumulation Reserves	Annuity Savings Reserves	Expense Reserves	Total
Additions				
Appropriations and contributions:				
Employers	\$ 1,396,331,977	\$ -	\$ -	\$ 1,242,139,095
Members	-	342,066,080	-	342,066,080
Net investment income	1,461,900,137	-	-	1,461,900,137
Total additions	2,858,232,114	342,066,080	-	3,200,298,194
Deductions				
Benefit payments	1,878,501,292	-	-	1,878,501,292
Refunds of member contributions	-	28,548,843	-	28,548,843
Administrative expenses	-	-	18,000,678	18,000,678
Total deductions	1,878,501,292	28,548,843	18,000,678	1,925,050,813
Other changes in net position restricted for pension benefits:				
Transfer due to retirement of members	192,611,301	(192,611,301)	-	-
Transfer of interest allocation	(139,630,256)	139,630,256	-	-
Transfer to pay administrative expenses	(20,677,825)	-	20,677,825	-
Return of unrequired funds due to savings in administrative expenses	757,003	-	(757,003)	-
	33,060,223	(52,981,045)	19,920,822	-
Net increase/(decrease)	1,012,791,045	260,536,192	1,920,144	1,275,247,381
Fiduciary net position restricted for pensions:				
Beginning of year	18,685,002,497	3,729,248,623	11,133,855	22,425,384,975
End of year	\$ 19,697,793,542	\$ 3,989,784,815	\$ 13,053,999	\$ 23,700,632,356

See accompanying independent auditor's report.

Other Information
Schedule 2

Schedule of Administrative Expenses

Year ended June 30, 2024

	<u>2024</u>
Personnel services	
Salaries and wages	\$ 7,494,199
Fringe benefits	4,686,023
Net change in unused vacation credits	461,262
Total personnel services	<u>12,641,484</u>
Professional services	
Actuarial	124,900
Auditing and tax consulting	327,020
Disability hearing expenses	67,353
Legal services	807,166
Medical	393,995
Other services	50,375
Total professional services	<u>1,770,809</u>
Communication	
Postage	197,443
Printing and binding	74,436
Telephone	85,838
Travel	165,546
Total communication	<u>523,263</u>
Rentals	
Rental of equipment	87,955
Rental of premises	21,555
Total rentals	<u>109,510</u>
Other	
Equipment and cloud costs	116,044
Repairs and maintenance	1,605,958
Office and other administrative costs	177,259
Total other	<u>1,899,261</u>
Depreciation	<u>1,056,351</u>
	<u>\$ 18,000,678</u>

See accompanying independent auditor's report.

Schedule 3

Schedule of Investment Expenses

Year ended June 30, 2024

	<u>2024</u>
Real estate and alternative investment expenses	
Operating expenses	\$ 6,721,599
Total real estate and alternative investment expenses	<u>6,721,599</u>
Investment expenses	
Investment manager/advisor fees	101,385,239
Bank custodian fees	300,019
Other investment expenses	<u>65,705,627</u>
Total investment expenses	<u>167,390,885</u>
Securities lending expenses	
Borrower rebates	28,242,569
Management fees	<u>420,171</u>
Total securities lending expenses	<u>28,662,740</u>
	<u>\$ 202,775,224</u>

See accompanying independent auditor's report.

Other Information
Schedule 4

Statement of Changes in Assets and Liabilities

Social Security Contribution Fund - (Unaudited)

Year ended June 30, 2024

	2024			
	Beginning Balance	Additions	Deductions	Ending Balance
Assets:				
Receivable from employers	\$ -	\$ 279,384,012	\$ 279,384,012	\$ -
Total assets	<u>\$ -</u>	<u>\$ 279,384,012</u>	<u>\$ 279,384,012</u>	<u>\$ -</u>
Liabilities:				
Due to employers	\$ -	\$ 279,384,012	\$ 279,384,012	\$ -
Total liabilities	<u>\$ -</u>	<u>\$ 279,384,012</u>	<u>\$ 279,384,012</u>	<u>\$ -</u>

Note A - Social Security Contribution Fund (Other Information)

The Social Security Contribution Fund (Contribution Fund), reported in Other Information Schedule 4, 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); and
4. To invest and collect income on resources held by the Contribution Fund.

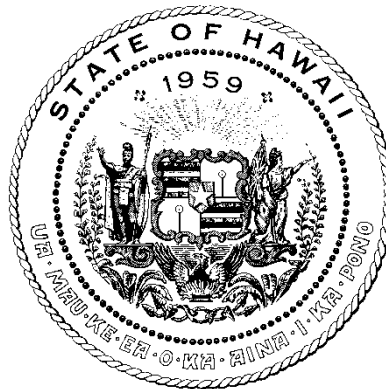
All other non-State governmental agencies remit Social Security contributions directly to the IRS. Social Security contributions withheld from employees are remitted directly to the IRS by the employers. At June 30, 2024, the ERS held no amounts in the Contribution Fund as all employer contribution amounts from the State were paid directly to the IRS.

See accompanying independent auditor's report.



Employees' Retirement System

of the State of Hawaii



**INVESTMENT
SECTION**

*Letter from Chief Investment Officer*JOSH GREEN, M.D.
GOVERNORSYLVIA LUKE
LIEUTENANT GOVERNORTHOMAS WILLIAMS
EXECUTIVE DIRECTORGAIL STROHL
DEPUTY EXECUTIVE DIRECTOR**STATE OF HAWAII**
EMPLOYEES' RETIREMENT SYSTEM

September 15, 2025

Board of Trustees
Employees' Retirement System of the State of Hawai'i
City Financial Tower
201 Merchant Street, Suite 1400
Honolulu, HI 96813-2980

Aloha Kākou,

It's a privilege to share this update on our investments for the fiscal year ending June 30, 2024. This past year was anything but quiet. Markets responded to shifts in monetary policy, rising global tensions, and an ongoing effort to control inflation. Through all of that, the Employees' Retirement System of the State of Hawai'i stayed focused and steady. We closed the fiscal year with 23.5 billion dollars in assets and a return of 7.2 percent.

This letter covers what shaped the year, how the portfolio performed, and where we are heading.

Market Dynamics This Year

Markets were unpredictable, but that was not unexpected. Equity markets, especially in the United States, delivered strong returns. Global equities rose more than 18 percent. Bonds were mixed. Intermediate U.S. Treasury bonds helped, but longer-dated bonds struggled as interest rate pressures persisted. Commodities gained 5 percent, showing resilience even with a stronger U.S. dollar and tighter financial conditions. Currency movements varied, but the dollar strengthened overall.

Throughout the year, we stayed grounded in our process while remaining alert to changes around us. Markets were influenced by more than just rates and inflation. We observed ongoing supply chain restructuring, evolving labor dynamics, and a growing focus on emerging technologies. Each of these areas is reshaping how risk and opportunity are defined.

The speed at which market narratives change has made it harder to rely on historical playbooks. What seems like consensus in one quarter often reverses the next. Expectations around recession risks, central bank policy, and investor positioning shifted dramatically over the year. Our strategy was to stay patient, observe, and act only when the long-term picture warranted adjustment.

How We Did

For the fiscal year ending June 30, 2024, the portfolio returned 7.2 percent, exceeding our actuarial target of 7.0 percent. This performance contributed approximately 1. billion dollars in investment gains and continued to support the long-term stability of the System. Since inception, our average return remains strong at 7.6 percent, reflecting consistent alignment with long-term objectives.

*Letter from Chief Investment Officer (continued)***PAGE 2**

Public equity market value totaled \$4.9b and delivered a return of 16.5 percent. This is a strong result, though it trailed the global equity benchmark return of 18.40 percent. This gap reflects our intentional tilt toward downside protection and risk balance. Our equity portfolio favored quality, income, and diversification, which meant we participated in gains but not at the scale of passive benchmarks that were heavily concentrated in tech and large-cap U.S. stocks.

Private equity market value totaled \$4.6b and returned 7.31 percent, well below its benchmark return of 23.6 percent. Global credit market value totaled \$2.8b and returned 11.8 percent, underperforming its benchmark return of 13.9 percent. Real assets market value totaled \$4.4b and returned a negative 0.2 percent, also underperforming its benchmark of 9.3 percent. These portfolios are predominately private market allocations. Results reflect valuation timing, slower capital deployment in certain strategies, and performance headwinds among select private markets, as compared to public benchmarks. That said, in all portfolios, our long-term track record remains strong, with inception to date returns that meet or exceed benchmark returns. We are continuing to monitor pacing and portfolio composition to ensure future exposures align with risk tolerance and expected outcomes.

Diversifying strategies market value totaled \$6.7b and delivered a return of 4.7 percent. These results, while lower than our growth strategies, outperformed the benchmark return of 3.6 percent and remained consistent with their intended role of diversification. Strategies include systematic trend, global macro, and other alternative strategies designed not to outperform in equity rallies but to provide offsetting exposures during dislocations. While they lag in bull markets, we continue to value them for the ballast they provide.

Compared to our total fund policy benchmark, which returned 13.1 percent, the ERS portfolio trailed by 5.9 percent for the year. This underperformance was largely attributable to relative equity underexposure and our decision not to lean into the most aggressive segments of the public market rally. These choices reflect a disciplined investment posture and a longer view. Over three-, five-, and ten-year horizons, our results remain close to benchmark and continue to meet or exceed the 7 percent long-term objective. We view these trade-offs as worthwhile in protecting capital through full cycles.

How the Portfolio is Built

The structure of our portfolio continues to reflect the long-term needs of our members. Seventy percent is allocated to growth assets including public and private equity, credit, and real assets. The remaining portion is allocated to diversifying strategies such as interest rate exposure, defensive positions, and liquid alternatives.

This diversified mix helps us avoid depending too much on any single part of the market. When markets rally, we participate. When they decline, we avoid the full brunt of the downturn. That balance lets us keep moving forward, even when conditions are volatile.

Over the past year, we made meaningful progress in strengthening the systems that support portfolio oversight. Our liquidity buffers remain strong. We also enhanced internal tools that allow us to monitor cash flows, capital calls, and market exposure across strategies.

We know that growth assets will not be sufficient on their own to fund the System over the coming decades. Risk management, especially in illiquid assets, is equally important. We are committed to growing the portfolio responsibly, avoiding unnecessary complexity, and ensuring that every part of the strategy supports long-term sustainability.

Letter from Chief Investment Officer (continued)

PAGE 3**What's Next**

We are entering a period where economic signals remain mixed. Inflation is not back to pre-pandemic levels. Interest rates are still high. Policy uncertainty is influencing both investor confidence and corporate behavior. These challenges require us to stay adaptable and aware.

Future Focus and Initiatives

Our priorities for the coming year fall into three main areas. First, we will increase transparency through improved reporting. We want to be clear and consistent in how we share results with our Board, members, and stakeholders. Second, we are enhancing internal systems for performance tracking, liquidity monitoring, and operational due diligence. Third, we are refining how we implement strategies, particularly in private markets.

We're also investing in our people. That means mentoring staff, building career pathways, planning for future leadership, and ensuring that our team reflects the values and diversity of Hawai'i. The strength of this portfolio depends on the people who manage it. Supporting them is one of the best long-term investments we can make.

Final Thoughts

We exist for one reason: to protect the retirement security of the public employees of Hawai'i. That purpose grounds every decision we make. We take it seriously and personally.

To our members, thank you for your trust. To our Board, consultants, Executive Director, and staff, thank you for your partnership. And to the investment team, you show up every day with focus, care, and heart. It's an honor to lead this work with you.

We're proud of the progress we made this year, but we're not finished. We're still building, still learning, and staying ready for what comes next, with clarity and care.

Thank you once again for your trust, your dedication, and your commitment to public service. Together, we will continue to build a secure and prosperous future for the system and its beneficiaries.

Me ka mahalo,
(With deep gratitude)

Kristin Varela
Chief Investment Officer
Employees' Retirement System of the State of Hawai'i

Letter from Investment Consultant

Memorandum
March 28, 2025
Page 1 of 12



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Board of Trustees
Employees' Retirement System of the State of Hawaii
City Financial Tower
201 Merchant Street, Suite 1400
Honolulu, HI 96813-2980

Dear Trustees:

Enclosed is our report on the investment activity for the Employees' Retirement System of the State of Hawaii ("ERS") for periods ending June 30, 2024, as requested by the Government Financial Officers' Association (GFOA).

Hawaii ERS - Total Fund Performance

The total assets of the Retirement System were approximately \$23.7 billion as of June 30, 2024, an increase of roughly \$1.3 billion for the fiscal year. The ERS Total Fund generated positive investment returns for the fiscal year though most segments of the portfolio, however, portions of the ERS portfolio experienced negative relative returns in comparison to their respective benchmarks.

The investment return for the Total Fund, expressed as a net-of-fees time-weighted total rate of return, was +7.2% for the fiscal year ending June 30, 2024, compared to the policy benchmark return of +13.1% and the Investment Metrics Public Defined Benefit (DB) Plans Greater than \$1 Billion database (which includes the previously utilized BNY Mellon Total Public Funds >\$1B Database) peer median return of +9.7%.

For the three-year period ending June 30, 2024, the Total Fund returned +4.2% per annum versus the benchmark's return of +5.3% and the Investment Metrics Public DB Plans Greater than \$1 Billion database peer median return of +3.2%.

For the trailing five-year period ending June 30, 2024, the Total Fund returned +7.6% per annum versus the policy benchmark's return of +7.7% and the Investment Metrics Public DB Plans Greater than \$1 Billion database peer median return of +7.3%.

Letter from Investment Consultant (continued)

Memorandum

March 28, 2025

Page 2 of 12

The Total Fund's returns over all examined periods were consistent with the global capital markets. The majority of Total Fund's return for the fiscal year 2024 was primarily driven by the Broad Growth strategic class, and in particular, by the Public and Private Equity segments. Though Real Estate was the primary detractor for the fiscal year, its impact to the Total Fund's absolute returns was marginal.

The ERS has deliberately constructed a more risk-focused, diversified, and globally oriented portfolio compared to peers. Considering the market environment of recent years, the ERS's benchmark- and peer-relative performance is entirely in line with expectations.

Strategic Class Performance

In 2014, the ERS adopted a risk-based, functional framework for allocating capital within the Total Fund. This framework makes use of strategic, functional classes that in turn utilize underlying asset classes and strategies. Since this date, the overall structure has undergone marginal revisions/reorganizations while staying true to the risk-based, functional framework. During the 2018 fiscal year, the ERS completed the remapping of all of the prior asset classes to various risk-based, functional strategic classes. There were slight revisions to the naming conventions of the classes and their components during the 2021 fiscal year as well. As a result of the 2023 Asset-Liability Study, the strategic class framework incorporated new naming conventions and improved definitions of sub-asset classes to better align with the ERS risk allocation and restructured certain invested opportunities to better align with their characteristics. These revisions became effective during the 2024 fiscal year on January 1, 2024. Based on these changes, the verbiage below highlights the performance of the ERS's risk-based strategic classes.

As calculated by BNY Mellon, the ERS's custodial bank, the Broad Growth strategic class produced a +8.5% return for the fiscal year versus the Broad Growth Historical Benchmark's¹ return of +17.4%. At fiscal year-end, the Broad Growth class utilized three components: 1) Global Equity, 2) Global Credit, and 3) Real Assets. The Global Equity component generated a +11.9% return, the Global Credit component produced a +11.8% return, and the Real Assets component generated a (-0.2%) return for the fiscal year.

The Diversifying Strategies strategic class produced a +4.7% return for the fiscal year versus the Diversifying Strategies Historical Benchmark's return of +3.6%. At fiscal year-end, the Diversifying Strategies class contained two components: 1) Liquid Defensive/Diversifying and 2) Illiquid Diversifying. The Liquid Defensive/Diversifying component produced a +3.7% return, and the Illiquid Diversifying component generated a +10.8% return for the fiscal year.

¹ As a result of restructuring after the 2023 Asset Liability Study, benchmarks for mid and lower level classes have been reconstructed using historical allocation policy weights and policy indices as the previously separate underlying components might have been united under a single composite category or vice versa. During this process, certain minor adjustments were made during this process due to issues such as availability. While the overall compositions of the Broad Growth and Diversifying Strategies composite benchmarks are nearly identical from what have been used previously, there are minor variations as the mid and lower level composites' reconstructed benchmarks feed into these two major strategic classes. The naming conventions used in performance reporting are reflected here to correctly identify the referents. For more information about the historical benchmark reconstruction process, please refer to the memorandum titled "Historical Target Allocation-Based Benchmark Construction" dated 10/02/2024

Letter from Investment Consultant (continued)

Memorandum
March 28, 2025
Page 3 of 12

The major strategic classes above utilize a variety of underlying asset classes and strategies. The performance tables in the Investment Results section of this letter provide additional granularity with respect to the various strategic classes and their underlying components and sub-components.

Market Conditions¹

As it turned out, fiscal year 2024 began right around the same time as the Fed last increased interest rates in the battle against the pandemic-induced inflation. It has been a year that, despite numerous predictions to the contrary, economic growth remained positive, inflation has leveled out or declined, depending on the measure, and the labor market has remained relatively strong despite some recent softening.

The last increase in the Federal Funds rate was in July of 2023, to a range of 5.25%–5.5%. At the time, given the Fed’s hawkish comments and above expectations economic data, investors started to recognize that rates could stay higher for longer, with no forthcoming interest rate cut. Combined with a downgrade in US debt and weakening economic data out of Europe and China, equity markets began to decline. Of the major asset classes, the US equity market (Russell 3000) fell by 3.3% in the first quarter of fiscal 2024. Outside the US, developed markets (MSCI EAFE) lost 4.1% and emerging market equities (MSCI Emerging Markets) were down 2.9%. Within emerging markets, Chinese equities (MSCI China) were down 1.9% in the first quarter of fiscal 2024.

Treasury rates continued to drift upward in the first quarter of fiscal 2024 with rates on longer-dated maturities increasing the most, driving a flattening of the yield curve. The two-year Treasury rose slightly from 4.9% to 5.1% while the ten-year Treasury increased from 3.8% to 4.6%. Higher rates resulted in negative returns for investment grade bonds. The broad US investment grade bond market (Bloomberg US Aggregate) fell 3.2%. Returns for High Yield bonds (Bloomberg High Yield) remained robust on few signs of distress and increased by 0.5% over the period.

As the second quarter of fiscal 2024 began, futures markets were still pricing in a small chance of an additional rate hike in the cycle, with two to three potential rate decreases in 2024. Markets continued searching for overall direction though, on the path of inflation, growth, and interest rates both in the US and abroad. As the quarter progressed, economic data started to come in below expectations and optimism built that major central banks could start cutting rates in 2024. This shift in sentiment rekindled the broad risk-on environment experienced earlier in calendar year 2023.

Among equity asset classes, the US equity market (Russell 3000) returned an impressive 12.1% in the second fiscal quarter. Outside the US, developed markets (MSCI EAFE) increased by 10.4% in the second fiscal quarter with more than half the gains coming from a depreciating US dollar. Emerging market equities (MSCI Emerging Markets) were up 7.9% over the same period. Within emerging markets, Chinese equities (MSCI China) were down 4.2%, despite the enthusiasm around the globe.

¹ Economic and market data sources in this section include Bloomberg, Bureau of Economic Analysis, and Bureau of Labor Statistics.

Letter from Investment Consultant (continued)

Memorandum

March 28, 2025

Page 6 of 12

Following a softening in inflation and expectations of lower policy rates, interest rates fell significantly in the second quarter of fiscal 2024, resulting in positive returns for investment grade asset classes. The two-year Treasury fell from 5.1% to 4.3% while the ten-year Treasury declined from 4.6% to 3.9%. The broad US investment grade bond market (Bloomberg US Aggregate) was up 6.8%, the strongest quarterly performance on record for that benchmark. Returns for high yield bonds (Bloomberg High Yield) continued the positive trend and increased by 7.2% over the second quarter of fiscal 2024.

The third quarter of fiscal 2024 began with the same optimism from the end of the previous quarter that inflation was in decline and that interest rate cuts would be forthcoming. However, as we moved forward it was likely that the resilient economic data that was driving global equities higher was also pushing out the timing of the expected first Fed rate cut, weighing on bonds. At that time major central banks had largely paused interest rate hikes with expectations that many would eventually cut rates. The uneven pace of falling inflation and economic growth across countries led to speculation that the pace of rate cuts could vary between central banks.

Inflation pressures had significantly eased in most countries from their pandemic peaks, but levels were still above most central bank targets with questions about how inflation would track going forward. Headline inflation in the US rose in March 2024 (3.2% to 3.5%) by more than expected, while core inflation was unchanged (3.8%) when it was predicted to decline to 3.7%.

Among equity asset classes, US markets (Russell 3000 Index) rose 10.0% in the third quarter of fiscal 2024. The technology sector continued to perform well, with energy likely gaining on geopolitical tensions. Non-US developed equity markets (MSCI EAFE) increased 5.8% in the quarter, helped by Japanese equities which hit multi-decade highs. A strengthening US dollar drove the weaker relative results for US investors with returns in local currency terms (MSCI EAFE Local) 4.2% higher (10.0% versus 5.8%) over the third quarter of fiscal 2024.

During the third fiscal quarter, emerging market equities (MSCI Emerging Markets) had the weakest equity returns (+2.4%), depressed by China (MSCI China) at (-2.2%). Slowing economic growth, lingering issues in the property sector, and efforts by the US to discourage investments in China all weighed on results. The stronger dollar also hurt performance in emerging markets for US investors with returns in local currency terms (MSCI Emerging Markets Local) 2.1% higher (+4.5%) during the same quarter.

Higher inflation and rising interest rates weighed on bonds with the broad US bond market (Bloomberg Aggregate) returning -0.8% for the third quarter of fiscal 2024. High Yield Bonds (Barclays High Yield) remained positive, up 1.5% for the same quarter, as risk appetite remained strong and all-in yields attractive.

Letter from Investment Consultant (continued)

Memorandum
March 28, 2025
Page 5 of 12

The final fiscal quarter began with investors recognizing that interest rates may have to stay higher for longer given resilient economic data. Stronger than expected inflation and employment data in the US weighed on both stocks and bonds in April. However, by May and June, sentiment changed as the Fed confirmed it was unlikely they would increase interest rates and economic data started largely coming in below expectations. Headline year-over-year inflation in the US fell 0.5% over the quarter to 3.0% with several readings coming in below expectations. Core CPI also fell 0.5% in the quarter, finishing at 3.3%. Outside the US, inflation readings continued to decline in many developed markets, enough so that central banks in Canada, Sweden, Switzerland, and the EU all cut interest rates in the final fiscal quarter.

Among equity asset classes, US markets (Russell 3000 Index) rose 3.2% in the fourth quarter of fiscal 2024. Large capitalization technology companies again performed well, driven by continued excitement over artificial intelligence. Enthusiasm surrounding artificial intelligence also benefited utilities, although to a lesser extent, with the market recognizing the massive computing power and energy needed to incorporate these technologies into many facets of everyday life. Non-US developed equity markets (MSCI EAFE) decreased 0.4% in the final quarter of fiscal 2024. A strengthening US dollar drove the weaker relative results for US investors with returns in local currency terms (MSCI EAFE Local) 1.4% higher (+1.0% versus -0.4%). Emerging market equities had the best returns in the final quarter of fiscal 2024, with the MSCI Emerging Markets Index returning +5.0%, partially attributed to China (MSCI China) at +7.1%.

Rising interest rates weighed on bonds with income balancing capital losses. The broad US bond market (Bloomberg Aggregate) returned 0.1% for the final quarter of fiscal 2024. High Yield Bonds (Barclays High Yield) remained positive, up 1.1% for the quarter.

Somewhat surprisingly for many, the 2024 fiscal year saw continued high policy rates with many economies avoiding recessions. In the US the Fed kept policy rates steady at 5.25%-5.50%, a level not seen in decades, for almost the entire fiscal year. Despite that, GDP growth in the US remained robust, with growth rates at 4.9%, 3.4%, 1.4%, and 2.8% for the first, second, third, and fourth quarters of fiscal year 2024, respectively. Unemployment increased 0.5% over the fiscal year, starting at 3.6% and ending at 4.1%, but remained low relative to history. All of this occurred while the headline year-over-year inflation number ended where it began, at 3.0%, while the core CPI number declined from 4.8% to 3.3%.

Letter from Investment Consultant (continued)

Memorandum
March 28, 2025
Page 6 of 12

Outside the US, unemployment and inflation painted a stable picture. The Eurozone ended fiscal year 2024 with unemployment numbers at 6.5%, the same level as the beginning of the fiscal year. Japan ended with an unemployment figure of 2.5%, slightly down from where it started for the year. Inflation in the Eurozone ended the fiscal year at 2.5%, down from 5.5% a year earlier. Inflation in Japan ended fiscal year 2024 at 2.8% versus 2.6% at the beginning of the fiscal year. China notably had inflation levels at the end of the fiscal year at 0.2%, up slightly from 0.0% at the beginning of the fiscal year, given a disappointing reopening after Covid, issues in the property sector, geopolitical tensions, and increasingly protectionist trade measures around the globe.

Sincerely,



Colin Bebee, CFA
Managing Principal



Mika Malone, CAIA
Managing Principal

Report on Investment Activity by Investment Consultant (continued)

Memorandum
 March 28, 2025
 Page 7 of 12

Report on Investment Activity for the Employees' Retirement System of the State of Hawaii

Prepared by Meketa Investment Group, Inc. June 2024

Outline of Investment Policies

The primary goal of the Plan is the preservation of capital. The Board of Trustees seeks preservation of capital with a consistent, positive return for the Plan. Although pure speculation is to be avoided, the Board recognizes that a return in-line with the actuarial rate is associated with a certain degree of risk. Risk to be assumed must be considered appropriate for the return anticipated and consistent with the total diversification of the Plan.

Strategic Allocation Policy

A formal asset-liability is conducted every three-to-five years to verify or amend the Plan's policy targets. The targets are designed to achieve a certain level of return, and associated level of risk, that is aligned with the Plan's goals and objectives. The targets are evaluated on the basis of assets designated to each strategic class by the Board, rather than on a current invested position. The targets are pursued primarily by cash flow on a long-term basis and if significant changes occur within the economic and/or capital market environment according to the rebalancing guidelines. The targets are to be reviewed annually for reasonableness relative to significant economic and market changes.

The Board of Trustees initiated and completed an asset-liability study during fiscal year 2023. As a result of the 2023 Asset-Liability Study, the Board adopted a new long-term strategic allocation policy which became effective on January 1, 2024. In addition, the strategic class framework incorporated new naming conventions and improved definitions of sub-asset classes to better align with the ERS risk allocation and restructured certain invested opportunities to better align with their characteristics.

Strategic Allocation Policy (as of June 30, 2024)¹

At the end of the fiscal year, the Plan was strategically invested in the following classes:

Strategic Allocation² (functional/risk-based classes)	
Broad Growth	70%
Diversifying Strategies	30%
Opportunities / Other	0%
Total	100%

¹ The above strategic allocation is supported by a multitude of underlying sub-asset class (see supporting pages).

² Actual allocations varied.

Report on Investment Activity by Investment Consultant

Memorandum

March 28, 2025

Page 8 of 12

Long-Term Strategic Allocation Policy

The new long-term strategic allocation policy maintained the two major strategic classes that were adopted as a result of the asset-liability study that began in fiscal year 2019 and have been in place since July 2020. Most prevailing classes and sub-classes were renamed and/or reorganized to better align with risk allocations, while a few classes were eliminated.

Expected Annualized Return and Risk

The Board manages the expected return/risk posture of the Plan as part of the formal asset-liability studies that are completed every three-to-five years. Based on the 2023 Asset-Liability Study and updated capital markets assumptions (as of June 30, 2024), the Total Fund was positioned to achieve a long-term return of approximately 7.4% with an annualized volatility of approximately 11.1%.

Evolving Strategic Allocation Policy

Implementation Plan for Long-term Strategic Policy					
	06/30/2020	07/01/2020	07/01/2021	07/01/2022	01/01/2024
Broad Growth	68%	72%	67.5%	65%	70%
Principal Protection	8%	--	--	--	--
Real Return	8%	--	--	--	--
Crisis Risk Offset	16%	--	--	--	--
Diversifying Strategies	--	28%	32.5%	35%	30%
Total Portfolio	100%	100%	100%	100%	100%

Report on Investment Activity by Investment Consultant (continued)

Memorandum
March 28, 2025
Page 9 of 12

Manager Evaluation

Public markets managers are measured against relevant indices and/or their respective peer groups of managers. Market indices and peer group benchmarks (when applicable) are assigned to each manager and are intended to serve as a guide for the investment manager to understand the risk/reward posture of their portfolio. Private and/or specialized markets managers are measured against public market proxies, relevant peer groups, and/or specialized indices (when applicable).

Managers have full discretion to manage the risk posture of their portfolios relative to their designated market index and may, with conviction and appropriate expertise, execute security strategies not reflected by their market index as long as they conform to the investment guidelines and the laws of the State of Hawai‘i.

Investment Practices

Historically, the full Employees’ Retirement System of the State of Hawai‘i Investment Policy, Guidelines, and Procedures Manual (“Manual”) described, in detail, acceptable investment practices, manager reporting requirements, manager performance guidelines, distribution of brokerage commissions, and securities lending guidelines, among other items. Material revisions to the Manual occurred during each of the last ten fiscal years and will continue to transpire throughout the evolution of the Plan.

Subsequent to the end of the 2020 fiscal year, a major revision occurred to this document, and it has been reconstituted as an Investment Policy Statement (“IPS”). This modification occurred in order to update the document to align with industry best practices and to better reflect the current governance structure of the system’s investment portfolio. A current version of the IPS is located on the ERS’s website.

All rates of return are calculated using methodologies that are generally in line with the Global Investment Performance Standards (GIPS). All public markets manager returns are time-weighted rates of return based on daily or monthly custodial data. All private markets manager returns seek to accurately represent cash flows and appraisal values. The ERS’s custodian bank is the primary entity responsible for performance reporting.

Report on Investment Activity by Investment Consultant (continued)

Memorandum

March 28, 2025

Page 10 of 12

Investment Results as of June 30, 2024 (Risk-based Classes)¹:

	Performance - Year Ended June 30, (%)					Trailing	Trailing
	2024 (%)	2023 (%)	2022 (%)	2021 (%)	2020 (%)	3 Years (%)	5 Years (%)
Broad Growth	8.5	3.4	0.7	34.6	-0.5	4.2	8.6
<i>Broad Growth Benchmark²</i>	<i>17.4</i>	<i>5.7</i>	<i>-3.3</i>	<i>31.5</i>	<i>-1.9</i>	<i>6.3</i>	<i>9.1</i>
Diversifying Strategies	4.7	-1.5	10.2	1.2	6.0	4.4	4.1
<i>Diversifying Strategies Benchmark³</i>	<i>3.6</i>	<i>1.9</i>	<i>2.7</i>	<i>4.1</i>	<i>5.7</i>	<i>2.7</i>	<i>3.6</i>
Other	6.2	6.3	-11.6	23.5	3.6	-0.1	5.0
Total Fund	7.2	1.9	3.5	26.3	1.1	4.2	7.6
<i>Market Benchmark⁴</i>	<i>13.1</i>	<i>4.5</i>	<i>-1.3</i>	<i>23.3</i>	<i>0.6</i>	<i>5.3</i>	<i>7.7</i>
<i>Peer Group Median⁵</i>	<i>9.7</i>	<i>7.6</i>	<i>-6.6</i>	<i>27.0</i>	<i>1.6</i>	<i>3.2</i>	<i>7.3</i>

¹ FY denotes fiscal year, which begins on July 1 and ends on June 30. **Performance** presented is net-of-fees and annualized for periods longer than one year. The letters in prior years presented gross-of-fees performance data.

Composites: Per BNY Mellon data, the **Broad Growth** composite was inception 10/01/2014, and contains lagged and non-lagged components. The **Diversified Strategies** composite was inception 04/01/2017; its performance prior to 07/01/2020 largely represents that of the **Crisis Risk Offset** composite. Class-specific performance is not meaningful for **Other** and therefore omitted, but its underlying accounts roll-up to the **Total Fund** market value and performance.

Historical Benchmarks: As a result of restructuring after the 2023 Asset-Liability Study, benchmarks for mid- and lower-level classes have been reconstructed using historical allocation policy weights and policy indices; certain minor adjustments were made during this process due to issues such as availability. As the reconstructed benchmarks feed into Broad Growth and Diversifying Strategies composite benchmarks, there may be minor variations to the benchmark returns presented in the prior years' reports for the same fiscal periods. The reconstruction does not affect the returns shown for Market Benchmark (formerly, "Total Fund Policy Benchmark"). For more information about the historical benchmark reconstruction process, please refer to the memorandum titled "Historical Target Allocation-Based Benchmark Construction" dated 10/02/2024. The word "Historical" is omitted in the reconstructed benchmark names in the table for brevity but included in the footnotes to identify them as such. Those without "Historical" in their names denote inactive benchmarks discontinued prior to 01/01/2024.

² **Broad Growth Historical Benchmark** is composed of 43% Public Equity Historical Benchmark, 43% Stabilized Growth Benchmark, and 14% Private Equity Historical Benchmark from 01/01/2018 to 06/30/2020; 70% Public Growth Benchmark, 16% Private Equity Historical Benchmark, and 14% Real Assets Historical Benchmark from 07/01/2020 to 06/30/2021; 66% Public Growth Benchmark, 20% Private Equity Historical Benchmark, and 14% Real Assets Historical Benchmark from 07/01/2021 to 06/30/2022; 50% Public Growth Benchmark, 28% Private Equity Historical Benchmark, and 22% Real Assets Historical Benchmark from 07/01/2022 to 12/31/2023; . 56% Global Equity Historical Benchmark, 17% Global Credit Historical Benchmark, and 22% Real Assets Historical Benchmark thereafter.

Please refer to the following page for the compositions of **Public Equity Historical Benchmark**, **Private Equity Historical Benchmark**, **Real Assets Historical Benchmark**, **Global Equity Historical Benchmark**, and **Global Credit Historical Benchmark**.

Public Growth Benchmark is composed of 55.5% MSCI ACWI IMI Index (Net), 20% Options-Based Equity Benchmark, 15.5% Global Credit (Public Growth) Benchmark, and 9% MSCI ACWI Minimum Volatility Index (Net) from 07/01/2020 to 06/30/2021; 55.5% MSCI ACWI IMI Index (Net), 16% Options-Based Equity Benchmark, 15.5% Global Credit (Public Growth) Benchmark, 9% MSCI ACWI Minimum Volatility Index (Net), and 4% ICE BofA All US Convertibles Index from 07/01/2021 to 06/30/2022; 66.5% MSCI ACWI IMI Index (Net), 20% Global Credit (Public Growth) Benchmark, 8% MSCI ACWI Minimum Volatility Index (Net), and 5.5% ICE BofA All US Convertibles Index from 07/01/2022 through its discontinuation on 12/31/2023. **Global Credit (Public Growth) Benchmark** has the same composition as Global Credit Historical Benchmark, described in the following page, with the exception that Global Credit (Public Growth) Benchmark retained the historical return streams calculated with Morningstar LSTA US Leveraged Loan Index for periods prior to 07/01/2021, whereas the reconstructed Global Credit Historical Benchmark uses Morningstar LSTA US Leveraged Loan 100 Index instead. **Options-Based Equity Benchmark** is composed of 33.3% CBOE S&P 500 Buy Write Index, 33.3% CBOE S&P 500 Buy Write Index, 16.7% MSCI ACWI ex US Index (Net), and 16.7% 90-Day T-Bills Index from 10/31/2016 to 06/30/2020; 50% CBOE S&P 500 Put Write Index, 35% CBOE MSCI EAFE Put Write Index (PXEA), and 15% CBOE MSCI Emerging Markets Put Write Index (PXE) thereafter through its discontinuation on 06/30/2022.

Stabilized Growth Benchmark is composed of 17% CBOE S&P 500 Buy Write Index, 17% CBOE S&P 500 Put Write Index, 17% MSCI ACWI Minimum Volatility Index (Net), 15% NCREIF (Blended), 8.5% Bloomberg Global Credit Index (Hedged), 8.5% MSCI ACWI ex US Index (Net), 8.5% 90-Day T-Bills Index, 5.7% Bloomberg Global High Yield Index (Hedged), and 2.8% Morningstar LSTA Leveraged Loan Index from 07/01/2016 through its discontinuation on 06/30/2020. **NCREIF (Blended)** is NCREIF Property Index (Quarter Lag) to 12/31/2017 and NCREIF ODCE Index (Quarter Lag) thereafter to 06/30/2020.

³ **Diversifying Strategies Historical Benchmark** is composed of 50% Liquid Defensive Historical Benchmark and 40% Liquid Diversifying Historical Benchmark and 10% Illiquid Diversifying Historical Benchmark from 04/01/2017 to 06/30/2020; 50% Liquid Defensive Historical Benchmark, 40% Liquid Historical Diversifying Benchmark, and 10% Illiquid Diversifying Benchmark from 07/01/2020 through 06/30/2022; 45% Liquid Defensive Historical Benchmark, 40% Liquid Diversifying Historical Benchmark, and 15% Illiquid Historical Diversifying Benchmark from 07/01/2022 to 12/31/2023; 87% Liquid Defensive Historical Benchmark, 13% Illiquid Diversifying Historical Benchmark thereafter. Please refer to the following pages for the compositions of **Liquid Defensive Historical Benchmark**, **Liquid Diversifying Historical Benchmark**, and **Illiquid Diversifying Historical Benchmark**.

⁴ **Market Benchmark** (formerly, "Total Fund Policy Benchmark") is composed of 68% Broad Growth Historical Benchmark, 16% Crisis Risk Offset Benchmark, 8% Principal Protection Benchmark, and 8% Real Return Benchmark from 01/01/2019 to 06/30/2020; 72% Broad Growth Historical Benchmark and 28% Diversifying Strategies Historical Benchmark from 07/01/2020 to 06/30/2021; 67.5% Broad Growth Historical Benchmark and 32.5% Diversifying Strategies Historical Benchmark from 07/01/2021 to 06/30/2022; 65% Broad Growth Historical Benchmark and 35% Diversifying Strategies Historical Benchmark from 07/01/2022 to 12/31/2023; 70% Broad Growth Historical Benchmark and 30% Diversifying Strategies Historical Benchmark thereafter.

Principal Protection Benchmark is 55% Bloomberg US Intermediate ex Credit and 45% Bloomberg Global Intermediate ex Credit (Hedged) from 12/31/2017 to 06/30/2020. **Real Return Benchmark** is Consumer Price Index (Season Adjusted)+3% from 10/01/2014 to 06/30/2020. **Crisis Risk Offset Benchmark** is composed of 25% Bloomberg US Treasury Long Index, 45% MLM Global Index 15V, and 30% 90-Day T-Bills+2.5% from 04/01/2019 to 06/30/2020.

⁵ **Peer Group Median** represents the median fund in the universe of Investment Metrics ("IM") **Public Defined Benefit Plans with Greater than \$1 Billion** in assets which include the aggregated data of IM clients on the PARis reporting platform supplemented by plan sponsor peer group data from BNY Mellon as IM's data vendor.

Report on Investment Activity by Investment Consultant (continued)

Memorandum
March 28, 2025
Page 11 of 12

Investment Results as of June 30, 2024 (Risk-Based Classes – Sub-Components):

	Performance - Year Ended June 30,					Trailing	Trailing
	2024 (%)	2023 (%)	2022 (%)	2021 (%)	2020 (%)	3 Years (%)	5 Years (%)
Broad Growth	8.5	3.4	0.7	34.6	-0.5	4.2	8.6
<i>Broad Growth Benchmark²</i>	17.4	5.7	-3.3	31.5	-1.9	6.3	9.1
Global Equity	11.9	5.6	-0.1	46.3	0.5	5.7	11.7
<i>Global Equity Benchmark³</i>	21.7	6.4	-8.1	46.7	-1.4	6.0	11.5
Public Equity	16.5	14.9	-17.0	42.5	1.6	3.6	10.0
<i>Public Equity Benchmark⁴</i>	18.4	16.1	-16.5	40.9	1.2	4.7	10.4
Private Equity	7.3	-3.8	29.6	55.4	-0.7	10.2	15.6
<i>Private Equity Benchmark⁵</i>	23.6	-5.7	8.3	59.6	-10.7	8.1	12.5
Global Credit	11.8	1.9	0.8	22.0	-1.2	4.7	6.7
<i>Global Credit Benchmark⁶</i>	13.9	6.8	-5.8	13.1	2.1	4.6	5.7
Public Credit	16.6	2.4	-3.3	21.3	-2.0	4.9	6.6
<i>Public Credit Benchmark⁷</i>	11.7	11.0	-9.9	12.7	2.1	3.7	5.1
Private Credit	9.8	1.8	5.3	25.6	--	5.6	--
<i>Private Credit Benchmark⁸</i>	14.6	2.5	-1.5	13.2	--	5.0	--
Real Assets	-0.2	-1.2	17.9	13.1	2.9	5.1	6.2
<i>Real Assets Benchmark⁹</i>	9.3	0.3	22.9	2.5	1.0	10.4	6.9
Real Estate	-6.5	-4.6	25.4	14.6	2.3	3.8	5.6
<i>Real Estate Benchmark¹⁰</i>	8.5	-3.5	27.8	1.9	-1.7	10.2	6.0
Agriculture	1.8	1.4	--	--	--	--	--
<i>Agriculture Benchmark¹¹</i>	0.7	9.1	--	--	--	--	--
Timber	16.9	12.5	12.0	-2.2	-0.7	13.8	7.4
<i>Timber Benchmark¹²</i>	17.7	11.3	11.8	1.5	1.3	13.6	8.5
Infrastructure	7.4	8.7	5.5	24.1	19.3	7.2	12.7
<i>Infrastructure Benchmark¹³</i>	15.7	7.2	13.3	9.5	4.7	12.0	10.0

¹ FY denotes fiscal year, which begins on July 1 and ends on June 30. **Performance** presented is net-of-fees and annualized for periods longer than one year. The letters in prior years presented gross-of-fees performance data. Please see the notes on previous page regarding **Historical Benchmarks**. **Broad Growth** composite contains lagged components from **Private Equity**, **Private Credit**, and **Real Assets**. **Private Credit** was inception on 11/01/2019; **Agriculture**, on 10/01/2021.

² Please see the preceding page for the **Broad Growth Historical Benchmark** definition.

³ **Global Equity Historical Benchmark** is composed of 69.5% Public Equity Historical Benchmark and 30.5% Private Equity Historical Benchmark from 01/01/2019 to 06/30/2020; 70.8% Public Equity Historical Benchmark and 29.2% Private Equity Historical Benchmark from 07/01/2020 to 06/30/2021; 64.7% Public Equity Historical Benchmark and 35.3% Private Equity Historical Benchmark from 07/01/2021 to 06/30/2022; 54.3% Public Equity Historical Benchmark and 45.7% Private Equity Historical Benchmark from 07/01/2022 to 12/31/2023; 51.3% Public Equity Historical Benchmark and 48.7% Private Equity Historical Benchmark since 01/01/2024.

⁴ **Public Equity Historical Benchmark** is MSCI All Country World Investable Market Index (Net) since 10/01/2014.

⁵ **Private Equity Historical Benchmark** is MSCI ACWI IMI (Net)+2% (Quarter Lag) from 10/01/2014 to 12/31/2023; MSCI ACWI IMI (Net) (Quarter Lag) thereafter.

⁶ **Global Credit Historical Benchmark** is composed of 100% Public Credit Historical Benchmark from 10/01/2014 to 06/30/2020; 25% Public Credit Historical Benchmark and 75% Private Credit Historical Benchmark from 07/01/2020 to 06/30/2021; 50% Public Credit Historical Benchmark and 50% Private Credit Historical Benchmark from 07/01/2021 to 12/31/2023; 33.3% Public Credit Historical Benchmark and 66.7% Private Credit Historical Benchmark thereafter.

⁷ **Public Credit Historical Benchmark** is composed of 50% Bloomberg Global Credit (Hedged), 33.3% Bloomberg Global High Yield (Hedged), and 16.7% Morningstar LSTA US Leveraged Loan 100 from 10/01/2014 to 06/30/2020; 50% Bloomberg Global High Yield (Hedged) and 50% Morningstar LSTA US Leveraged Loan 100 thereafter.

⁸ **Private Credit Historical Benchmark** is composed of 50% Bloomberg Global High Yield (Hedged)+1% (Month Lag) and 50% Morningstar LSTA US Leveraged Loan 100 Index+1% (Month Lag) from 07/01/2020 to 06/30/2021; 25% Bloomberg Global High Yield (Hedged)+1% (Month Lag), 25% Morningstar LSTA US Leveraged Loan 100 Index+1% (Month Lag), 25% Bloomberg Global High Yield (Hedged)+1% (Quarter Lag), and 25% Morningstar LSTA US Leveraged Loan 100 Index+1% (Quarter Lag) from 07/01/2021 to 12/31/2023; 50% Bloomberg Global High Yield (Hedged) (Quarter Lag) and 50% Morningstar LSTA US Leveraged Loan 100 Index (Quarter Lag) thereafter.

⁹ **Real Assets Historical Benchmark** is composed of 52% Real Estate Historical Benchmark and 48% Real Return Benchmark from 01/01/2019 to 06/30/2020; 75% Real Estate Historical Benchmark, 5% Agriculture Historical Benchmark, 12.5% Timber Historical Benchmark, and 7.5% Infrastructure Historical Benchmark from 07/01/2020 to 06/30/2021; 70% Real Estate Historical Benchmark, 8% Agriculture Historical Benchmark, 12% Timber Historical Benchmark, and 10% Infrastructure Historical Benchmark from 07/01/2021 to 06/30/2022; 70% Real Estate Historical Benchmark, 10% Agriculture Historical Benchmark, 10% Timber Historical Benchmark, and 10% Infrastructure Historical Benchmark from 07/01/2022 to 12/31/2023; 47% Real Estate Historical Benchmark, 7% Agriculture Historical Benchmark, 9% Timber Historical Benchmark, and 37% Infrastructure Historical Benchmark thereafter. **Real Return Benchmark** is Consumer Price Index (Season Adjusted)+3% from 10/01/2014 to 06/30/2020.

¹⁰ **Real Estate Historical Benchmark** is composed of 60% NCREIF ODCE (Net) (Quarter Lag) and 40% Private Equity Historical Benchmark from 07/01/2019 to 06/30/2020; 53.3% NCREIF ODCE (Net) (Quarter Lag) and 46.7% NCREIF ODCE (Net)+1% (Quarter Lag) from 07/01/2020 to 06/30/2021; 55.7% NCREIF ODCE (Net) (Quarter Lag) and 44.3% NCREIF ODCE (Net)+1% (Quarter Lag) from 07/01/2021 to 06/30/2022; 57.1% NCREIF ODCE (Net) (Quarter Lag) and 42.9% NCREIF ODCE (Net)+1% (Quarter Lag) from 07/01/2022 to 12/31/2023; 100% FTSE EPRA NAREIT Global REITs (Gross) (Quarter Lag) thereafter.

¹¹ **Agriculture Historical Benchmark** is NCREIF Farmland Index (Quarter Lag) from 10/01/2021 to 12/31/2023; S&P GCSI Agriculture Index (Quarter Lag) thereafter...

¹² **Timber Historical Benchmark** is NCREIF Timberland (Quarter Lag) from 09/01/1999 to 12/31/2023; S&P Global Timber & Forestry (Net) Index (Quarter Lag) thereafter...

¹³ **Infrastructure Historical Benchmark** is CPI (Season Adjusted)+4% from 12/01/2014 to 12/31/2023; Dow Jones Brookfield Global Infrastructure (Net) (Quarter Lag) thereafter.

Report on Investment Activity by Investment Consultant (continued)

Memorandum
March 28, 2025
Page 12 of 12

Investment Results as of June 30, 2024 (Risk-Based Classes – Sub-Components) [continued]:

	Performance - Year Ended June 30,					Trailing	Trailing
	2024 (%)	2023 (%)	2022 (%)	2021 (%)	2020 (%)	3 Years (%)	5 Years (%)
Diversifying Strategies	4.1	-1.5	10.2	1.2	6.	4.4	4.1
<i>Diversifying Strategies Benchmark²</i>	3.6	1.9	2.7	4.1	5.7	2.7	3.6
Liquid Defensive/Diversifying	3.7	-1.5	11.5	1.1	5.6	4.4	4.0
<i>Liquid Defensive Benchmark³</i>	1.5	-3.7	2.7	5.2	6.7	0.1	2.4
Defensive Return Capture	-2.8	-8.0	20.7	-32.9	--	2.6	--
<i>Defensive Return Capture Benchmark⁴</i>	4.2	6.2	2.7	2.6	--	4.4	--
Discretionary Alpha	9.7	--	--	--	--	--	--
<i>Discretionary Alpha Benchmark⁵</i>	4.2	--	--	--	--	--	--
Intermediate Duration Treasury	--	--	--	--	--	--	--
<i>Bloomberg US Treasury Intermediate⁶</i>	--	--	--	--	--	--	--
Long Duration Treasury	-5.1	-3.8	-10.1	-3.3	25.1	-6.4	-0.1
<i>Long Duration Treasury Benchmark⁷</i>	-5.6	-6.8	-15.2	-8.3	25.4	-9.3	-3.0
Systematic Trend Following	2.2	-5.6	37.6	20.3	1.2	9.9	10.1
<i>Systematic Trend Following Benchmark⁸</i>	0.0	-13.3	23.6	22.9	-6.0	2.3	4.4
Illiquid Diversifying	10.8	-1.9	2.0	4.9	--	3.5	--
<i>Illiquid Diversifying Benchmark⁹</i>	12.0	7.8	3.1	4.4	--	7.6	--
Idiosyncratic Return Capture	6.9	3.6	3.8	2.4	--	4.8	--
<i>Idiosyncratic Return Benchmark¹⁰</i>	10.5	7.3	3.7	3.6	--	7.1	--
Insurance Linked	16.1	-8.4	1.2	7.7	--	2.5	--
<i>Swiss RE Global Catastrophe Bond</i>	14.8	8.3	2.6	5.9	--	8.5	--

¹ FY denotes fiscal year, which begins on July 1 and ends on June 30. Performance presented is net-of-fees and annualized for periods longer than one year. The letters in prior years presented gross-of-fees performance data. Please see the notes on previous page regarding **Historical Benchmarks**. Per BNY Mellon data, the **Diversifying Strategies**, **Liquid Defensive/Diversifying**, **Long Duration Treasury**, and **Systematic Trend Following** were inception 04/01/2017. Performance of **Diversifying Strategies** prior to 07/01/2020 represents that of the **Crisis Risk Offset** composite. **Defensive Return Capture**, **Illiquid Diversifying**, **Idiosyncratic Return Capture**, and **Insurance Linked** were inception on 07/01/2020; **Discretionary Alpha** on 07/01/2023; and **Intermediate Duration Treasury** on 01/01/2024.

² **Diversifying Strategies Historical Benchmark** is composed of 50% Liquid Defensive Historical Benchmark, 40% Liquid Diversifying Benchmark, and 10% Illiquid Diversifying Historical Benchmark from 04/01/2017 to 06/30/2022; 45% Liquid Defensive Historical Benchmark, 40% Liquid Diversifying Benchmark, and 15% Illiquid Diversifying Historical Benchmark from 07/01/2022 to 12/31/2023; 87% Liquid Defensive Historical Benchmark, 13% Illiquid Diversifying Historical Benchmark thereafter. **Liquid Diversifying Benchmark** is 90 Day T Bills+2.5% from 04/01/2017 to its discontinuation on 12/31/2023.

³ **Liquid Defensive Historical Benchmark** is composed of 40% MLM Global Index EV (Blend), 30% Bloomberg US Treasury: Long Index, and 30% Bloomberg US Intermediate Aggregate ex Credit Index from 04/01/2017 to 06/30/2021; 35% MLM Global Index EV (Blend), 20% 90-Day T-Bills+2.5%, 15% Bloomberg US Treasury: Long Index, 15% Bloomberg US Intermediate Aggregate ex Credit Index, and 15% Bloomberg US TIPS 5+ Year Index from 07/01/2021 to 06/30/2022; 40% MLM Global Index EV (Blend), 40% 90-Day T-Bills+2.5%, 15% Bloomberg US Treasury: Long Index, and 5% Bloomberg US Intermediate Aggregate ex Credit Index from 07/01/2022 to 12/31/2023; 30.8% MLM Global Index EV (Blend), 15.4% Bloomberg US Treasury: Long Index, and 53.8% Bloomberg US Treasury: Intermediate Index thereafter.

⁴ **Defensive Return Capture** and **Discretionary Alpha Benchmarks** are 90-Day T-Bills+2.5% from 07/01/2020 to 12/31/2023; Bloomberg US Treasury Intermediate thereafter.

⁵ **Long Duration Treasury Historical Benchmark** is composed of 100% Bloomberg US Treasury: Long Index from 04/01/2017 to 01/31/2021; 50% Bloomberg US Treasury: Long Index and 50% Bloomberg US TIPS 5+ Year Index from 02/01/2021 to 03/31/2022; 100% Bloomberg US Treasury: Long Index thereafter.

⁶ **MLM Global Index EV (Blend)** is MLM Global Index LT 15V from 04/01/2017 to 03/31/2019; MLM Global Index EV (15V) thereafter.

⁷ **Illiquid Diversifying Historical Benchmark** is composed of 65% 90-Day T-Bills+3.5% and 35% Swiss RE Global Catastrophe Bond Index from 07/01/2020 to 06/30/2021; 50% 90-Day T-Bills+3.5% and 50% Swiss RE Global Catastrophe Bond Index from 07/01/2021 to 06/30/2022; 65% 90-Day T-Bills+3.5% and 35% Swiss RE Global Catastrophe Bond Index from 07/01/2022 to 12/31/2023; 100% Swiss RE Global Catastrophe Bond Index thereafter.

⁸ **Idiosyncratic Return Capture Historical Benchmark** is 90-Day T-Bills+3.5% from 07/01/2020 to 12/31/2023; Swiss RE Global Catastrophe Bond Index thereafter.

Investment Professionals
INVESTMENT MANAGERS

BROAD GROWTH

GLOBAL EQUITY**– PRIVATE EQUITY**

Builders VC
Common Fund
Hamilton Lane
Landmark
Stafford Partners

GLOBAL EQUITY**– PUBLIC EQUITY**

Avenue Asia
Carval Credit
Fortress Lending
Jefferies Direct Lending
HPS Credit
Lafayette Square USA
Oak Hill Advisors
Pacific Investment Management Company
Silver Rock Credit

GLOBAL CREDIT**– PRIVATE CREDIT**

Avenue Asia
Carval
Fortress
Heitman
Invesco
Jefferies Direct
Lafayette Square USA
Mesa West
Neuberger Berman
OHA
Orthogon Partners
Silverrock Credit
Torchlight Debt

GLOBAL CREDIT**– PUBLIC CREDIT**

HPS Credit

Continued on next page

*Investment Professionals (continued)***INVESTMENT MANAGERS (CONTINUED)****BROAD GROWTH (CONTINUED)****REAL ASSETS****- REAL ESTATE**

Angelo Gordon
 Almanac
 Blackrock
 Blacksand Capital
 Blackstone Realty
 CB Richard Ellis
 Cerebus
 DRA
 EJJ
 Fortress Japan
 GLP Capital
 Heitman Capital Management
 Invesco Realty Advisors
 Jadian
 Kayne Anderson
 Kohlberg Kravis Roberts
 LaSalle Investment Management
 Lone Star
 Prime Properties
 Prudential
 RReef America
 Starwood

REAL ASSETS**- AGRICULTURE**

Fiera Comox Global
 PGIM Agricultural Investments
 UBS Realty Investors

REAL ASSETS**- INFRASTRUCTURE**

Basalt Infrastructure
 Blackstone
 Encap
 IFM Investors (US) Advisor
 I Squared
 Kohlberg Kravis Roberts
 Morgan Stanley

REAL ASSETS**- TIMBER**

Hancock Timber Resource Group

Continued on next page

Investment Professionals (continued)
INVESTMENT MANAGERS (CONTINUED)
DIVERSIFYING STRATEGIES

LIQUID DEFENSIVE/ DIVERSIFYING
– DEFENSIVE RETURN CAPTURE

AHL
Lombard Odier
P E Global
Saba
36 South Capital

LIQUID DEFENSIVE/ DIVERSIFYING
– DISCRETIONARY ALPHA

Aequim
Aristesia
Melquart
Monashee
MY Alpha Management

LIQUID DEFENSIVE/ DIVERSIFYING
– SYSTEMATIC TREND FOLLOWING

AlphaSimplex
Aspect Capital
Brevan Howard
Broad Reach
Crabel Capital Management
Graham Capital Management
Mount Lucas Management

LIQUID DEFENSIVE/ DIVERSIFYING
– LONG DURATION TREASURY

SLC Management

ILLIQUID DIVERSIFYING
– IDIOSYNCRATIC RETURN CAPTURE

Blackstone
Cloverlay
Parabellum Partners
Stable

LIQUID DEFENSIVE/ DIVERSIFYING
– INTERMEDIATE DURATION TREASURY

Bank of Hawaii
First Hawaiian Bank
SLC Management

ILLIQUID DIVERSIFYING
– INSURANCE LINKED

Nephila
Pillar ENSO

OTHER ASSETS

Parametric

OTHER SERVICE PROVIDERS
INVESTMENT ADVISOR

Meketa Investment Group
AON Hewitt (Townsend)
Hamilton Lane

CUSTODIAL BANK

Bank of New York Mellon

PLATFORM SERVICE MANAGER (CRO)

FRM Investment Management (USA) LLC

Investment Schedules
List of Assets Directly Held (by fair value)*

as of June 30, 2024 (excludes investments in pooled vehicles, investment companies, limited partnerships, limited liability companies, and index funds)

* A complete list of holdings is available for review upon request.

					Average Issue Rating	Fair Value
Par / Shares		Security	Coupon	Maturity		
Domestic Fixed Income						
1	77,875,000	U S TREASURY BOND	4.625%	2/28/2026	AAA	\$ 77,598,544
2	59,100,000	U S TREASURY BOND	4.500%	5/15/2027	AAA	59,030,853
3	65,705,000	U S TREASURY BOND	1.125%	2/15/2031	AAA	53,793,341
4	49,185,000	U S TREASURY BOND	4.875%	4/30/2026	AAA	49,257,794
5	47,570,000	U S TREASURY BOND	4.125%	2/15/2027	AAA	47,031,032
6	46,400,000	U S TREASURY BOND	3.875%	8/15/2033	AAA	44,730,528
7	42,020,000	U S TREASURY BOND	3.875%	11/30/2029	AAA	41,069,508
8	38,425,000	U S TREASURY BOND	4.875%	5/31/2026	AAA	38,501,466
9	41,640,000	U S TREASURY BOND	1.750%	1/31/2029	AAA	37,149,126
10	37,580,000	U S TREASURY BOND	3.875%	12/31/2027	AAA	36,872,369
International Fixed Income						
NONE						
Domestic Equities						
1	309,986	MICROSOFT CORP				\$ 138,548,242
2	634,502	NVIDIA CORP				78,386,376
3	311,622	APPLE INC				65,633,826
4	213,266	VISA INC				55,975,926
5	299,116	ALPHABET INC				54,863,857
6	233,906	AMAZON.COM INC				45,202,334
7	187,613	AMERICAN EXPRESS CO				43,441,790
8	78,062	THERMO FISHER SCIENTIFIC INC				43,168,286
9	231,570	ALPHABET INC				42,180,476
10	10,544	BOOKING HOLDINGS INC				41,770,056
International Equities						
1	1,245,000	TAIWAN SEMICONDUCTOR MANUFACTURING				\$ 37,071,960
2	879,254	ENBRIDGE INC				31,273,645
3	744,865	SHELL PLC				26,684,487
4	936,646	COMPASS GROUP PLC				25,574,707
5	152,094	WOLTERS KLUWER NV				25,233,444
6	249,949	HEINEKEN NV				24,189,821
7	29,975	LVMH MOET HENNESSY LOUIS VUITT				22,924,904
8	214,047	VINCI SA				22,568,851
9	2,011,866	NATIONAL GRID PLC				22,446,282
10	650,850	DIAGEO PLC				20,482,099

*Investment Schedules (continued)***Investments Summary***- excludes cash and cash equivalents and short-term investments**(Dollar values expressed in thousands)*

	Fair Value as of	
	June 30, 2024	Percentage
Equity securities		
Common stock	\$ 4,099,651,543	18.03%
Equity funds	1,168,192,573	5.14%
Other equities	9,518,881	0.04%
	<u>5,277,362,997</u>	<u>23.21%</u>
Fixed income securities		
US treasury / government / agencies	2,095,461,431	9.21%
US mortgage-backed	56,728,380	0.25%
US corporate	38,447,624	0.17%
Non-US corporate	2,962,860	0.01%
Fixed income funds	2,992,572,377	13.16%
Other fixed income	13,806,242	0.06%
	<u>5,199,978,914</u>	<u>22.86%</u>
Others		
Real asset investments	4,261,689,706	18.74%
Alternative investments	8,001,762,553	35.19%
	<u>12,263,452,259</u>	<u>53.93%</u>
Total, investments at fair value	<u>\$ 22,740,794,170</u>	<u>100.00%</u>

*Investment Schedules (continued)***Schedule of Investment Fees***by Asset Class Allocation**(Dollar values expressed in thousands)*

	Fair value as of June 30, 2024	Total FY 2024 Investment Fees	Basis Points
Broad Growth			
Global Equity			
Public Equity	\$ 4,716,538	19,845	42 bp
Private Equity	4,569,790	3,088	7
Global Credit			
Public Credit	935,938	154	2
Private Credit	1,627,616	12,082	74
Real Assets			
Real Estate	1,977,809	(12,462)	(63)
Agriculture	384,643	3,006	78
Timber	231,805	1,864	80
Infrastructure	1,679,487	3,087	18
	16,123,626	30,664	19
Diversifying Strategies			
Liquid Defensive / Diversifying			
Defensive Return Capture	639,681	8,077	126
Discretionary Alpha	1,104,061	15,862	144
Intermediate Duration Treasury	1,591,154	335	2
Long Duration Treasury	636,757	-	-
Systematic Trend Following	1,676,142	13,737	82
Illiquid Diversifying			
Idiosyncratic Return	458,963	8,576	187
Insurance Linked	466,502	5,672	122
	6,573,260	52,259	80
Other	230,317	7,708	335
Subtotal on investments	22,927,203	90,631	40
Other Investment Services			
Custodian fees	-	300	n/a
Investment consultant fees	-	10,754	n/a
Total including consultant and custodian	\$ 22,927,203	\$ 101,685	44

*Investment Schedules (continued)***Schedule of Broker Commissions**

The following is a list of brokers who received commissions from equity trades for securities directly held during Fiscal Year 2024.

Brokerage Firms	Shares Traded	Dollar Volume of Trades	Commission	
			Dollar Amount	Per Share
ABN AMRO CLEARING BANK N.V, AMSTERDAM	23,750	\$ 1,659,148	\$ 769	\$ 0.032
ACADEMY SECURITIES INC, LAKE MARY	6,300	380,639	126	0.020
AGORA CORRETORA DE TITULOS, SAO PAULO	67,477	99,329	66	0.001
ALLEN & COMPANY LLC, JERSEY CITY	23,516	4,244,716	655	0.028
AMBIT CAPITAL PRIVATE LTD, MUMBAI	1,008,821	19,903,698	29,870	0.030
BAIRD, ROBERT W & CO INC, MILWAUKEE	113,202	13,858,844	3,047	0.027
BANCO BTG PACTUAL SA, RIO DE JANEIRO	266,475	579,544	602	0.002
BANCO S3, MEXICO	4,466	18,087	11	0.002
BANCO SANTANDER, NEW YORK	603,004	860,939	1,357	0.002
BANK OF AMERICA CORP, CHARLOTTE	5,399,117	481,575,818	81,458	0.015
BANQUE PARIBAS, PARIS	258,598	4,233,367	3,681	0.014
BARCLAYS CAPITAL INC, WHIPPANY	1,427,969	130,732,892	11,944	0.008
BARCLAYS CAPITAL LE, NEW YORK	667,773	54,644,061	15,731	0.024
BARCLAYS CAPITAL, LONDON	1,960,016	36,789,207	9,970	0.005
BERENBERG GOSSLER & CIE, HAMBURG	707,594	27,142,805	10,387	0.015
BERNSTEIN SANFORD C & CO, NEW YORK	821,245	63,861,343	6,354	0.008
BMO CAPITAL MARKETS CORP, NEW YORK	506,338	39,945,809	12,945	0.026
BNP PARIBAS ARBITRAGE, FRANCE	10,419	163,531	33	0.003
BNP PARIBAS FINANCIAL MARKETS, PARIS	647,132	21,694,401	8,025	0.012
BNP PARIBAS PEREGRINE SEC LTD, HONG KONG	1,779,082	14,025,405	2,833	0.002
BNP PARIBAS PRIME BRKRGE INC, NEW YORK	72,688	2,850,770	338	0.005
BNP PARIBAS PRIME BROKERAGE, JERSEY CITY	24,653	1,941,413	801	0.032
BNP PARIBAS PRIME BROKERAGE, INC, NEW YORK	943,912	89,184,109	4,852	0.005
BNP PARIBAS SEC SRVS SA, SINGAPORE	131,180	3,587,922	2,139	0.016
BNP PARIBAS SEC SVCS, LONDON	2,279,932	13,470,624	4,812	0.002
BNP PARIBAS SECURITIES SVCS, HONG KONG	3,856,347	3,035,804	1,539	0.000
BNY CONVERGEX EXECUTION SOL, NEW YORK	684,112	14,919,230	3,695	0.005
BNY CONVERGEX, NEW YORK	109,690	16,782,608	823	0.008
BOFA SECURITIES EUROPE S.A., PARIS	348,147	6,527,330	979	0.003
BOFA SECURITIES, INC, NEW YORK	3,494,852	15,559,654	13,637	0.004
BRADESCO S.A. CTVM, SAO PAULO	472,214	1,935,377	1,743	0.004
BRASIL PLURAL CCTVM SA, SAO PAULO	302,736	867,884	608	0.002
BROADCORT CAPITAL CORP, NEW YORK	81,470	3,062,433	1,629	0.020
BTIG LLC, NEW YORK	1,133,438	47,716,675	32,408	0.029
Amounts carried forward	30,237,665	1,137,855,416	269,867	

*Investment Schedules (continued)***Schedule of Broker Commissions (continued)**

Brokerage Firms	Shares Traded	Dollar Volume of Trades	Commission	
			Dollar Amount	Per Share
Amounts brought forward	30,237,665	\$ 1,137,855,416	\$ 269,867	
CACEIS BANK, PARIS	266,353	6,688,424	3,263	\$ 0.012
CANACCORD ADAMS INC, BOSTON	25,001	418,359	369	0.015
CANTOR FITZGERALD & CO INC, NEW YORK	208,005	4,662,496	5,574	0.027
CANTOR FITZGERALD EUROPE, LONDON	44,137	421,680	294	0.007
CARNEGIE SECS LTD, HELSINKI	202,181	3,446,920	3,368	0.017
CASTLEOAK SECURITIES LP, JERSEY CITY	17,944	4,084,233	90	0.005
CIBC WORLD MARKETS CORP, TORONTO	539	25,303	3	0.006
CIBC WORLD MKTS INC, TORONTO	50,797	2,271,876	262	0.005
CITATION GROUP BCC CLRG, NEW YORK	107,536	11,156,998	2,551	0.024
CITIBANK (COR), NEW YORK	38,621	22,363	34	0.001
CITIBANK, NY	996,591	1,455,707	741	0.001
CITIGROUP GBL MKTS INC, NEW YORK	4,127,897	27,421,537	11,338	0.003
CITIGROUP GBL MKTS INC, TAIPEI	331,000	3,533,544	3,226	0.010
CITIGROUP GLOBAL MARKETS EURO, FRANKFURT	814,575	22,255,342	7,091	0.009
CITIGROUP GLOBAL MARKETS INC., NEW YORK	89,105	1,391,246	572	0.006
CITIGROUP GLOBAL MARKETS LTD, LONDON	494,073	10,133,876	3,535	0.007
CITIGROUP GLOBAL MARKETS, INC., NEW YORK	1,196,241	106,807,214	19,991	0.017
CLSA AUSTRALIA PTY LTD, SYDNEY	162,005	2,417,946	485	0.003
COMPUTERSHARE TRUST CO NA, NEW YORK	2,203	275	-	-
COWEN AND CO LLC, NEW YORK	683,159	63,576,510	10,160	0.015
COWEN AND COMPANY, LLC, JERSEY CITY	352,473	34,944,655	2,644	0.008
CRAIG HALLUM, NEW YORK	17,436	2,726,738	349	0.020
CREDIT LYONNAIS SEC, SEOUL	28,235	1,182,638	308	0.011
CREDIT LYONNAIS SECS (ASIA), HONG KONG	3,099,170	8,527,955	5,214	0.002
CREDIT LYONNAIS SECS ASIA LTD, TAIPEI	29,000	373,788	112	0.004
CREDIT LYONNAIS SECS, SINGAPORE	912,905	18,293,390	9,642	0.011
D CARNEGIE AB, STOCKHOLM	47,273	1,480,869	1,082	0.023
DAIWA SEC SMBC SINGAPORE LTD, SINGAPORE	659,525	15,722,583	17,491	0.027
DAIWA SECS AMER INC, NEW YORK	920,804	13,692,369	11,193	0.012
DEN DANSKE BANK, COPENHAGEN	12,118	497,070	298	0.025
DEUTSCHE BK SECS INC, NY	85,459	2,001,939	2,984	0.035
ENAM SECURITIES PVT LTD, MUMBAI	170,647	2,945,726	4,418	0.026
EXANE, PARIS	439,407	7,888,707	2,007	0.005
FIDELITY CAPITAL MARKETS, NEW YORK	15,545	2,274,279	78	0.005
FRIEDMAN, BILLINGS AND RAMSEY, NEW YORK	54,660	1,825,888	1,093	0.020
GOLDMAN SACHS & CO, NY	8,612,172	410,402,751	71,389	0.008
GOLDMAN SACHS (ASIA) LLC, TAIPEI	361,000	8,195,077	2,416	0.007
GOLDMAN SACHS AUSTRALIA PTY LTD, MELBOURN	71,555	105,202	79	0.001
GOLDMAN SACHS BANK EUROPE SE, FRANKFURT	8,117	814,215	24	0.003
GOLDMAN SACHS DO BRASIL, SAO PAULO	1,006,066	2,444,922	2,456	0.002
GOLDMAN SACHS INTL, LONDON	360,182	45,078,884	3,232	0.009
GOLDMAN SACHS INTL, LONDON	3,266,029	69,069,190	25,602	0.008
Amounts carried forward	60,625,406	2,060,536,100	506,925	

*Investment Schedules (continued)***Schedule of Broker Commissions (continued)**

Brokerage Firms	Shares Traded	Dollar Volume of Trades	Commission	
			Dollar Amount	Per Share
Amounts brought forward	60,625,406	\$ 2,060,536,100	\$ 506,925	
GOODMORNING SHINHAN SECS CO LTD, SEOUL	30,579	1,406,099	460	\$ 0.015
GUGGENHEIM CAPITAL MARKETS LLC, NEW YORK	434,337	9,630,828	9,114	0.021
HAITONG INTL SEC CO LTD, HONG KONG	179,900	158,567	32	0.000
HONG KONG & SHANGHAI BKG CORP, HONG KONG	362,690	2,927,672	524	0.001
HSBC BANK PLC (MIDLAND BK)(JAC), LONDON	5,630,068	110,425,108	24,733	0.004
HSBC BROKERAGE (USA) INC., NEW YORK	4,674,854	233,018,251	23,375	0.005
HSBC SECS INC, NEW YORK	38,549,847	116,149,577	23,154	0.001
HYUNDAI SECURITIES, SEOUL	19,878	3,819,521	5,721	0.288
INSTINET AUSTRALIA CLEARING SERV, SYDNEY	522,967	1,800,991	379	0.001
INSTINET CLEARING SER INC, NEW YORK	673,443	51,397,039	9,025	0.013
INSTINET CORP, NEW YORK	395,627	31,681,779	1,693	0.004
INSTINET EUROPE LIMITED, LONDON	5,126,138	69,748,937	32,984	0.006
INSTINET PACIFIC LTD, HONG KONG	2,548,150	9,606,927	3,427	0.001
INSTINET, SINGAPORE	33,600	213,044	43	0.001
INVESTMENT TECHNOLOGY GROUP LTD,DUBLIN	489,861	13,741,506	6,343	0.013
ISI GROUP INC, NEW YORK	541,376	30,294,938	11,290	0.021
ITG AUSTRALIA LTD, MELBOURNE	194,983	281,547	119	0.001
ITG CANADA CORP, TORONTO	198	13,645	1	0.005
J P MORGAN SEC LTD/STOCK LENDING, LONDON	133,778	8,517,963	2,148	0.016
J P MORGAN SEC, SYDNEY	1,029,767	4,009,791	2,837	0.003
J P MORGAN SECS LTD, LONDON	5,978,324	140,816,748	50,027	0.008
J.P MORGAN SECURITIES INC, NEW YORK	1,864,722	207,689,359	34,366	0.018
J.P. MORGAN SECURITIES LLC, NEW YORK	2,919,862	273,287,109	14,390	0.005
J.P. MORGAN SECURITIES, HONG KONG	12,211,802	26,867,225	11,260	0.001
J.P.MORGAN AG, FRANKFURT	1,211,029	15,305,448	2,231	0.002
JANNEY MONTGOMERY SCOTT, PHILADELPHIA	10,159	636,877	203	0.020
JEFFERIES & CO INC, NEW YORK	3,629,647	208,273,964	40,951	0.011
JEFFERIES & CO LTD, LONDON	5,346,629	75,505,948	21,095	0.004
JEFFERIES AUSTRALIA PTY LIMITED, SYDNEY	19,593	27,476	6	0.000
JEFFERIES HONG KONG LIMITED, HONG KONG	3,487,653	3,856,841	4,225	0.001
JEFFERIES INDIA PRIVATE LTD, MUMBAI	149,835	2,142,384	3,341	0.022
JM MORGAN STANLEY SECURITIES, MUMBAI	113,070	1,324,539	1,981	0.018
JOHN HANCOCK **INVALID DO NOT USE**	209,128	2,022,740	2,430	0.012
JONESTRADING INST SVCS LLC, NEW YORK	266,497	8,589,793	8,134	0.031
JP MORGAN INDIA PRIVATE LTD, MUMBAI	255,594	3,232,570	2,429	0.010
JP MORGAN SECS (FAR EAST) LTD, SEOUL	30,474	1,812,649	1,002	0.033
JP MORGAN SECS (TAIWAN) LTD, TAIWAN	986,694	4,733,139	2,439	0.002
JP MORGAN SECS, SINGAPORE	1,039,000	3,572,773	6,843	0.007
JPMORGAN SECURITIES INC, NEW YORK	1,260,785	8,954,112	5,589	0.004
KEB SALOMON SMITH BARNEY SECS, SEOUL	67,258	2,250,799	1,252	0.019
KEEFE BRUYETTE + WOODS INC, NEW YORK	82,855	4,885,680	2,379	0.029
KEYBANC CAPITAL MARKETS INC, NEW YORK	133,874	4,047,885	3,670	0.027
Amounts carried forward	163,471,931	3,759,215,888	884,570	

*Investment Schedules (continued)***Schedule of Broker Commissions (continued)**

Brokerage Firms	Shares Traded	Dollar Volume of Trades	Commission	
			Dollar Amount	Per Share
Amounts brought forward	163,471,931	\$ 3,759,215,888	\$ 884,570	
KOTAK SECURITIES,MUMBAI	374,258	7,462,816	13,085	\$ 0.035
LARRAIN VIAL, SANTIAGO	143,239	15,756	17	0.000
LEERINK SWANN AND COMPANY, NEW YORK	124,985	1,441,023	3,470	0.028
LIQUIDNET CANADA INC, TORONTO	3,721	63,867	54	0.015
LIQUIDNET EUROPE LIMITED, LONDON	202,659	2,777,607	1,251	0.006
LIQUIDNET INC, NEW YORK	547,762	43,817,099	5,210	0.010
LOOP CAPITAL MARKETS, JERSEY CITY	23,798	1,639,541	167	0.007
LUMINEX TRADING AND ANALYTICS, BOSTON	559,865	63,766,058	2,799	0.005
MACQUARIE BANK LIMITED, SYDNEY	693,656	2,448,336	1,400	0.002
MACQUARIE BANK LTD, HONG KONG	1,757,925	39,787,154	44,800	0.025
MACQUARIE SECS (SINGAPORE), SINGAPORE	62,200	65,787	26	0.000
MACQUARIE SECURITIES LTD, AUCKLAND	154,763	799,751	320	0.002
MACQUARIE SECURITIES LTD, SEOUL	20,481	827,055	862	0.042
MACQUARIES SECURITIES AUSTRALIA, SYDNEY	3,407,429	11,086,346	5,526	0.002
MERRILL LYNCH BROADCOURT CAP, NEW YORK	3,721	1,012,667	74	0.020
MERRILL LYNCH GILTS LTD, LONDON	676,300	13,362,791	4,631	0.007
MERRILL LYNCH INTL LONDON EQUITIES	6,597,280	123,517,611	35,309	0.005
MERRILL LYNCH PROFESSIONAL CLRG, PURCHAS	286,390	10,658,542	7,552	0.026
MIRAE ASSET SECURITIES, SEOUL	3,723	288,616	116	0.031
MISCHLER FINANCIAL GROUP INC, NEW YORK	47,696	3,051,288	456	0.010
MITSUBISHI UFJ SECURITIES, NEW YORK	83,426	1,429,000	1,429	0.017
MIZUHO SECURITIES USA INC. NEW YORK	1,660,400	12,379,449	11,169	0.007
MIZUHO SECURITIES USA, INC., NEW YORK	47,043	7,641,344	1,453	0.031
MKM PARTNERS LLC, GREENWICH	400	21,323	17	0.043
MORGAN STANLEY & CO INTL LTD, SEOUL	2,114	112,931	34	0.016
MORGAN STANLEY & CO INTL LTD, TAPEI	563,070	9,011,091	6,859	0.012
MORGAN STANLEY & CO, LONDON	2,862,679	39,294,656	8,748	0.003
MORGAN STANLEY AND CO., LLC, NEW YORK	13,251,797	364,682,468	65,743	0.005
MORGAN STANLEY EUROPE SE, FRANKFURT	336,764	3,338,146	1,674	0.005
MOTILAL OSWAL, INDIA	23,090	400,754	603	0.026
NATIONAL FINL SVCS CORP, NEW YORK	254,651	28,040,235	1,486	0.006
NATL FINL SVCS CORP/PRIME BRK/CNS, NY	3,831	301,100	19	0.005
NBCN INC, TORONTO (NBCS)	82,720	4,524,276	1,204	0.015
NEEDHAM & CO, NEW YORK	13,508	2,411,358	270	0.020
NEEDHAM AND CO LLC, NEW YORK	5,100	128,168	102	0.020
NESBITT BURNS, TORONTO (NTDT)	240,026	7,500,495	1,085	0.005
NOMURA FINANCIAL & INVESTMENT, SEOUL	2,718	310,918	93	0.034
NOMURA FINL ADV & SEC PVT, MUMBIA	51,228	647,228	581	0.011
NORDEA BK PLC, HELSINKI	8,828	673,449	404	0.046
NUVAMA WEALTH MANAGEMENT LTD, MUMBAI	536,650	16,497,238	24,803	0.046
ODDO ET CIE, PARIS	23,720	275,906	165	0.007
OPPENHEIMER & CO INC, NEW YORK	243,235	17,838,307	5,914	0.024
Amounts carried forward	199,460,780	4,604,565,439	1,145,550	

*Investment Schedules (continued)***Schedule of Broker Commissions (continued)**

Brokerage Firms	Shares Traded	Dollar Volume of Trades	Commission	
			Dollar Amount	Per Share
Amounts brought forward	199,460,780	\$ 4,604,565,439	\$ 1,145,550	
PAREL, PUTEAUX	13,231	792,924	385	\$ 0.029
PENSERRA SECURITIES, NEW YORK	33,400	2,322,406	232	0.007
PERSHING LLC, JERSEY CITY	545,198	25,563,460	10,132	0.019
PERSHING SECURITIES LTD, LONDON	516,395	12,457,157	8,546	0.017
PIPER JAFFRAY & CO., JERSEY CITY	82,176	6,158,250	2,326	0.028
RAYMOND JAMES & ASSOC INC, ST PETERSBURG	354,934	19,214,283	8,081	0.023
RBC CAPITAL MARKETS GMBH, FRANKFURT	57,841	541,695	81	0.001
RBC CAPITAL MARKETS LLC, NEW YORK	2,643,915	204,297,947	32,308	0.012
RBC DOMINION SECS INC, TORONTO	70,210	1,931,501	1,053	0.015
RBC DOMINION SECS INC, TORONTO (DOMA)	761,631	31,259,033	4,555	0.006
REDBURN PARTNERS LLP, LONDON	96,983	467,217	197	0.002
ROTH CAPITAL PARTNERS LLC, NEW YORK	20,112	1,590,410	402	0.020
ROYAL BANK OF CANADA EUROPE LTD, LONDON	323,348	5,742,854	1,148	0.004
S G WARBURG, SEOUL	187,995	10,596,043	4,953	0.026
SANFORD C BERNSTEIN & CO INC, LONDON	28,280	11,289,144	2,252	0.080
SANTANDER INVESTMENT S.A., SANTIAGO	2,944,596	35,120	35	0.000
SBI SECURITIES (HONG KONG) LI, HONG KONG	38,700	639,344	616	0.016
SCOTIA CAPITAL (USA) INC, NEW YORK	4,684	684,707	32	0.007
SCOTIA CAPITAL INC, NEW YORK	222,785	1,522,081	2,507	0.011
SCOTIA CAPITAL MKTS, TORONTO	38,780	1,015,314	200	0.005
SG AMERICAS SECURITIES LLC, NEW YORK	253,650	34,658,833	2,729	0.011
SKANDINAVISKA ENSKILDA BANKEN, STOCKHOLM	5,754	166,303	116	0.020
SMBC SECURITIES, INC NEW YORK	745,503	11,659,860	10,177	0.014
SOCIETE GENERALE, PARIS	1,396,806	12,311,593	3,193	0.002
SOCIETE GENERALE, PUTEAUX	268,313	22,505,279	9,502	0.035
SS KANTILAL ISHWARLAL SECS PVT, MUMBAI	1,635	13,974	21	0.013
STIFEL NICOLAUS	477,463	34,380,958	13,149	0.028
STUART FRANKEL & CO. INC, JERSEY CITY	7,217	2,285,564	72	0.010
SUNTRUST CAPITAL MARKETS INC, NEW YORK	14,834	657,054	596	0.040
TORONTO DOMINION SEC, TORONTO	112,245	4,562,934	579	0.005
UBS AG LONDON BRANCH, LONDON	190,939	8,788,353	2,171	0.011
UBS EQUITIES, LONDON	4,641,614	97,224,638	30,242	0.007
UBS EUROPE SE, FRANKFURT AM MAIN	14,199,570	41,400,192	7,751	0.001
UBS SECURITIES CANADA, TORONTO (BWIT)	225,078	10,188,543	1,382	0.006
UBS SECURITIES LLC, STAMFORD	2,827,464	269,850,388	27,160	0.010
UBS WARBURG ASIA LTD, HONG KONG	4,245,281	17,619,416	8,588	0.002
UBS WARBURG LLC, STAMFORD	11,388	52,018	36	0.003
UBS WARBURG SEC, TAIWAN	7,864,457	13,285,882	5,260	0.001
UNION BANK OF SWITZERLAND, ZURICH	23,315	847,381	245	0.011
VIRTU AMERICAS LLC, NEW YORK	444,657	46,082,288	2,280	0.005
WARBURG DILLON READ SEC, MUMBAI	74,702	892,547	1,074	0.014
WELLS FARGO SECURITIES LLC, CHARLOTTE	173,334	15,179,699	1,237	0.007
Amounts carried forward	246,651,193	5,587,300,026	1,353,151	

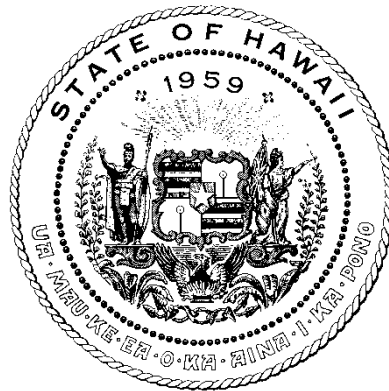
Schedule of Broker Commissions (continued)

Brokerage Firms	Shares Traded	Dollar Volume of Trades	Commission	
			Dollar Amount	Per Share
Amounts brought forward	246,651,193	\$ 5,587,300,026	\$ 1,353,151	
WELLS FARGO SECURITIES, LLC, NEW YORK	440,719	42,306,567	9,850	\$ 0.022
WILLIAM BLAIR & CO, CHICAGO	80,764	10,826,971	1,653	0.020
WILLIAMS CAPITAL GROUP LP, JERSEY CITY	22,500	1,000,296	180	0.008
XP INVESTIMENTOS CCTVM SA,RIO DE JANEIRO	270,471	661,843	601	0.002
OTHER	199,680	4,189,089	41	0.000
Total trades	247,665,327	\$ 5,646,284,792	\$ 1,365,476	\$ 0.006



Employees' Retirement System

of the State of Hawaii



**ACTUARIAL
SECTION**

GASB STATEMENT NO. 67 REPORTP: 469.524.0000 | www.grsconsulting.com

March 15, 2025

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

Dear Trustees:

This report provides information required by the Employees' Retirement System of the State of Hawaii ("ERS") in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans."

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 67 and 68. The calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the ERS only in its entirety and only with the permission of ERS.

This report is based upon information, furnished to us by ERS, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency, but it was not otherwise audited.

GRS provided the following information for the ERS to fulfill the GASB 67 reporting requirements that are included in the notes to the financial statements and the Required Supplementary Information located in the Financial Section of this ACFR.

- Single Discount Rate
- Required Discount Rate Sensitivity Information for the ERS providing the ratio of the Fiduciary Net Position to Total Pension Liability and the Net Pension Liability at a discount rate that is one percentage point lower and one percentage point higher than the discount rate at Measurement Date
- Service Cost; Interest; Changes of Benefit Terms; Differences between Expected and Actual Experience; Changes in Assumptions.
- Required Supplementary Information – Schedule of Changes in Net Pension Liability.
- Required Supplementary Information – Schedule of Net Pension Liability.
- Actuarial components of Governmental Accounting and Standards Board (GASB) 67 requirements.

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Gabriel Roeder Smith & Company

GASB STATEMENT NO. 67 REPORT (continued)


This report complements the actuarial valuation report, issued on January 14, 2025, that was provided to ERS and should be considered in conjunction with that report. Please see the significant actuarial valuation report information as of June 30, 2024 (located later in this section of the ERS' ACFR) for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

The entire GASB Statement No. 67 report and actuarial valuation report, as of June 30, 2024, are available on the ERS website at ers.ehawaii.gov.

To the best of our knowledge, this report is complete, accurate, and in accordance with generally recognized actuarial methods. One or more of the undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinion herein.

The signing actuaries are independent of the plan sponsor.

Respectfully submitted,



By

Lewis Ward
Consultant



By

Joseph P. Newton, FSA, EA
Pension Market Leader & Actuary

GASB STATEMENT NO. 67 REPORT (continued)

EXECUTIVE SUMMARY *** as of June 30, 2024

	<u>2024</u>	<u>2023</u>
Actuarial Valuation Date	June 30, 2024	June 30, 2023
Pension Plan's Fiscal Year Ending Date (Measurement Date & Reporting Date)	June 30, 2024	June 30, 2023
Membership		
Number of		
- Retirees and beneficiaries	55,820	54,973
- Inactive, nonretired members **	37,403	35,897
- Active members	<u>65,337</u>	<u>64,243</u>
- Total	158,560	155,113
Reported Payroll for Fiscal Year	\$4,948,188,592	\$4,483,686,505
Net Pension Liability		
Total Pension Liability	\$37,849,517,735	\$36,224,617,253
Plan Fiduciary Net Position	<u>23,700,632,356</u>	<u>22,425,384,975</u>
Net Pension Liability	\$14,148,885,379	\$13,799,232,278
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	62.62%	61.91%
Net Pension Liability as a Percentage of Covered Payroll	185.94%	295.20%
Development of the Single Discount Rate		
Single Discount Rate	7.00%	7.00%
Long-Term Expected Rate of Return	7.00%	7.00%
Long-Term Municipal Bond Rate*	3.97%	3.86%
Last year ending June 30 in the 2024 to 2123 projection period for which projected benefit payments are fully funded (and 2023 to 2122)	None	None

*Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity's Index's "20-year Municipal GO AA Index" as of June 30, 2024 and June 30, 2023. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax exempt securities.

** Inactive, nonretired members for GASB 67 reporting includes terminated vested members entitled to benefits but not yet receiving benefits plus inactive members (that while currently not vested for benefits may become vested in the future should they return to service and fulfill the additional service and contribution requirements applicable to their respective membership). The inactive membership counts used in the previous reporting method under GASB Statement No. 25 only included terminated vested members.

*** This information should be considered with the June 30, 2024 Actuarial Valuation Report information that follows this section beginning on page 127.

Gabriel Roeder Smith & Company

GASB STATEMENT NO. 67 REPORT (continued)

Discussion on GASB Statement No. 67.

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, “*Financial Reporting for Pension Plans*,” replaces the requirements of GASB Statement No. 25, “*Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*,” and GASB Statement No. 50, “*Pension Disclosures*.” GASB Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability of employers and non-employer contributing entities for benefits provided through the pension plan.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are incorporated in the Financial Section of this ACFR. However, certain information, such as notes regarding accounting policies and investments, are not provided by GRS since the retirement system is responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 67 requires defined benefit pension plans to present two financial statements, notes of the plan’s financial statements and required supplementary information (RSI):

- The *statement of fiduciary net position* presents the following items as of the end of the pension plan’s reporting period, such as: assets; deferred inflows and outflows of resources; liabilities; and fiduciary net position (assets, plus deferred outflows, minus liabilities, minus deferred inflows).
- The *statement of changes in fiduciary net position* presents the following for the plan’s reporting period: additions, such as contributions and investment income; deductions, such as benefit payments and expenses; and net increase or decrease in the fiduciary net position (the difference between additions and deductions).
- The notes of the plan’s financial statements include: a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs; the number and classes of employees covered by the benefit terms; the composition of the pension plan’s Board and the authority under which benefit terms may be amended; a description of the plan’s funding policy, which includes member and employer contribution requirements; the pension plan’s investment policies; a description of how fair value is determined; concentrations of investments greater than or equal to 5%; annual money-weighted rate of return on pension plan investments; the portion of the present value of benefits to be provided through the pension plan to current active and inactive plan members; the pension plan’s fiduciary net position; the net pension liability; the pension plan’s fiduciary net position as a percentage of the total pension liability; significant assumptions and methods used to calculate the total pension liability; inputs to the discount rates; and certain information about mortality assumptions and the dates of experience studies.
- The RSI requires a 10-year fiscal history of: sources of changes in the net pension liability; information about the components of the net pension liability and related ratios, including the pension plan’s fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; a comparison of the actual employer contributions to the actuarially determined contributions based on the plan’s funding policy; and the annual money-weighted rate of return on pension plan investments for each year.

GASB STATEMENT NO. 67 REPORT (continued)

Measurement of the Net Pension Liability

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2024 and a measurement date of June 30, 2024.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a single discount rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.00% the municipal bond rate is 3.86% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting single discount rate is 7.00%.

Letter from the ActuaryP: 469.524.0000 | www.grsconsulting.com

January 14, 2025

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

Dear Trustees:

Subject: Actuarial Valuation as of June 30, 2024

We certify that the information contained in the 2024 actuarial valuation report is accurate and fairly presents the actuarial position of the Employees' Retirement System of the State of Hawaii (ERS) as of June 30, 2024. There have been no adjustments for events which occurred after this date.

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

This report was prepared at the request of the Board and is intended for use by ERS and those designated or approved by the Board. This report may be provided to parties other than ERS only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report. (The entire GASB Statement No. 67 report and actuarial valuation report, as of June 30, 2024, are available on the ERS website at ers.ehawaii.gov.)

Actuarial valuations

The primary purpose of the valuation report is to determine the adequacy of the current employer contribution rate through measuring the resulting funding period, to describe the current financial condition of ERS, and to analyze changes in ERS's condition. In addition, the report provides various summaries of the data. This report may not be appropriate for other purposes. The information required by ERS in connection with Governmental Accounting Standards Board Statement Numbers 67 and 68 (GASB Nos. 67 and 68) will be provided in a separate report. (A summary of the GASB Statement No. 67 is presented immediately before this section.)

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Letter from the Actuary (continued)

Board of Trustees
January 14, 2025
Page 2

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

Financing objectives

The employee and employer contribution rates have been set by Law and are intended to provide for the normal costs of ERS and to amortize the unfunded actuarial accrued liability (UAAL) over a reasonable amount of time, which will ensure benefit security and intergenerational equity. The funding period is the number of years until the unfunded actuarial accrued liability (UAAL) is fully amortized. Hawaii Revised Statutes §88-122(e)(1) state that the employer contribution rates are subject to adjustment when the funding period is greater than the maximum funding period. The statutes were modified by the 2024 Hawaii Legislature to decrease the maximum funding period from 30 years to 25 years in 2024. In addition, the maximum funding period will decrease by 1 each year in the future until the maximum funding period reaches 20 years, at which point it will continue to be 20 years for all future years.

Progress toward realization of financing objectives

The actuarial accrued liability (AAL), the UAAL, and the determination of the resulting funding period illustrate the progress toward the realization of financing objectives. ERS had a liability experience loss which was caused by individual salary increases being more than expected by the assumptions. On the asset side, ERS experienced an actuarial loss as a result of returns in 2023 and 2024 not achieving the assumed 7%. In addition to these changes, ERS currently experiences negative amortization (interest on the UAAL is greater than the contributions towards the elimination of the UAAL). As a result, the UAAL increased (in dollars) based on this actuarial valuation as of June 30, 2024 and ERS's underfunded status as measured by the UAAL is now \$14.01 billion.

The 2017 Legislature passed legislation that made significant changes to the future employer contribution rates. The employer contribution rate for Police and Fire employees increased to 41% and the employer contribution rate for All Other Employees increased to 24%. The funding period assumes that these contribution rates will remain in effect throughout the funding period. Under current law, the contribution rates are expected to stay at these levels until ERS is fully funded. These increases have improved the outlook of ERS. As long as the contributions are made, ERS's funded status should improve and ERS should be able to absorb moderate adverse experience without a need to further increase the contribution rates.

The 2011 Legislature made changes to the benefits and member contribution rates for employees hired after June 30, 2012. Because these changes result in significantly higher contributions towards the unfunded liability in the future than in the current year, we believe it is more appropriate to determine the funding period using an open group projection rather than a static mathematical formula, which would instead assume that all amortization payments in the future will be the same percentage of pay as in the current year.

We have determined that the funding period for paying off the UAAL of ERS (in aggregate) is 22 years. Normally, we would expect the funding period to decrease by one each year if all assumptions are exactly met. Since the prior year's funding period was 23 years, we are at the expected funding period from last

Gabriel Roeder Smith & Company

Letter from the Actuary (continued)

Board of Trustees
January 14, 2025
Page 3

year. Given that the System experienced actuarial losses on both its assets and its liabilities, this result may be surprising. However, the UAAL was expected to increase slightly during this portion of the financing process and since the contributions to the System are a fixed percentage of payroll, an increase in the covered payroll that is larger than assumed implies a larger contribution stream in future years, which means larger payments towards the unfunded liabilities of ERS.

Hence, even though the total unfunded liabilities increased from last year, the end period (fiscal year) over which the unfunded liabilities are to be paid off did not change and the funding period decreased to 22 years. Because this period is less than 25 years, the minimum objectives set in State statute are currently being realized. In addition, when the current contribution rates were passed by the Legislature in 2017, it was expected that the funding period would be 22 years as of the 2024 valuation, thus ERS remains on track to achieve full funding in the same timeframe as originally set by the legislation.

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. The funded status alone is not appropriate for assessing the need for future contributions nor assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. However, the trend (historical and projected) of the funded ratio is a strong metric to use for assessing the dependability of the current funding policy and its ability to accumulate assets to pay benefits when due. The funded ratio is currently 63.0% compared with the 62.2% funded ratio in the previous valuation. The funded ratio improved due to the sizeable contributions towards the unfunded liabilities of the system as well as the contributions related to the excess pension costs.

Given the plan's current and future contribution rates and the new tier of benefits, if all actuarial assumptions are met (including the assumption of the plan earning 7.00% on the actuarial value of assets), it is expected that:

1. The employer normal cost as a percentage of pay will decrease to the level of the newest tier as the old tier population declines and is replaced by new tier members,
2. The employer contribution will remain level throughout the amortization period,
3. Thus, the net amount available to amortize the UAAL will increase over time,
4. The UAAL will increase in nominal dollars until the net amount for amortization is large enough to cover the interest charges, or approximately 2026, and then begin to decrease,
5. The UAAL will be fully amortized after 22 years, and
6. In the absence of benefit improvements and in consistent financial markets, the funded ratio should increase steadily until it reaches 100%.

The current projections expect the UAAL to begin to decline in FY 2026 (two years from the valuation date) with the annual amount of decline accelerating year over year thereafter. We believe three years is a reasonable amount of time as defined under the ASOP No. 4 (especially given that the UAAL has decreased in two of the last four valuation reports). All other parameters and methods used in the valuation also meet the requirements of a Reasonable Actuarially Determined Contribution (RADCD) under the ASOP.

Letter from the Actuary (continued)

Board of Trustees
January 14, 2025
Page 4

Thus, the employer contribution rates of 41% of payroll for Police and Fire and 24% for All Other Employees meet the requirements of a RADC.

However, it is important to again note that these statements are based on the actual experience meeting the current assumptions. Also, these statements depend upon the employers meeting the contribution requirements established by the 2017 Legislature. Future changes to the actuarial assumptions or future changes to reduce the contribution requirements could significantly change the outlook of ERS and the expectation on when ERS will reach a 100% funded level.

This valuation assumed the continuing ability of the plan sponsors to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

Benefit provisions and Legislative changes

This is the twelfth valuation with members covered under the new benefit tier.

There have been no changes in the benefit provisions since the prior valuation. See the Summary of Retirement Benefit Plan Provisions in the Introductory Section of this ACFR for more details on the benefit provisions for members of the ERS.

Assumptions and methods

The actuarial assumptions used in this valuation were adopted by the Board in August of 2022 based on the recommendations provided by an Experience Study performed by GRS. There were no changes to the actuarial assumptions or methods since the prior valuation.

Further detail on the assumptions and methods may be found in the *Summary of Actuarial Methods and Assumptions* in this section of this ACFR.

The actuarial assumptions represent estimates of future experience and are not market measures. The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. Based on the scope of this engagement, we have not performed analysis on the potential range of future measurements based on other factors. The actuarial calculations are intended to provide information for rational decision making.

In our opinion, the assumptions are internally consistent and are reasonably based on the actual experience of ERS.

Letter from the Actuary (continued)

Board of Trustees
January 14, 2025
Page 5

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Data

Member data for retired, active, and inactive participants was supplied as of March 31, 2024, by ERS's staff. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data. Asset information was supplied by ERS's staff.

Impact of Temporary Hazard Duty Pay

As the reader is probably aware, many of the employees and retirees covered by ERS have or will be receiving Temporary Hazard Duty Pay (THP) for periods worked during March 2020 to March 2022 as a result of the COVID-19 pandemic. With the exception of the Maui employees, payments for known settlement amounts as of November 2024 will be made in fiscal year 2025 (Maui's payments were made in fiscal years 2023 and 2024). These payments will be incorporated into the pensionable earnings for impacted Tier 1 employees (the payments are not included in the pensionable earnings of Tier 2 employees).

For those employees (and retirees) who have not settled and/or received their payments yet, no adjustments have been made to their individual liabilities as of the valuation date. The impact of the THP payments will be incorporated into their liabilities in the 2025 (and future) valuations. However, because ERS has accrued the contributions for the known fiscal year 2025 THP payments in ERS's 2024 financial statements, we have incorporated an offsetting liability equal to those accrued contributions in the actuarial valuation (as a minimum impact).

While not all of the THP payments are yet known as of this date, we have estimated the possible impact of these payments on the UAAL and the funding period. Assuming on average that all of the Tier 1 employees receive a THP payment similar to the payments made to the State employees, the UAAL is expected to increase between \$240 million – \$350 million and the funding period is expected to increase between 6 to 12 months.

Responsibility for Tables and Schedules

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

Letter from the Actuary (continued)

Board of Trustees
January 14, 2025
Page 6

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

The undersigned are independent actuaries and consultants. Mr. Newton is an Enrolled Actuary, a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries. Finally, all of the undersigned are experienced in performing valuations for large public retirement systems.

Sincerely,

Gabriel, Roeder, Smith & Company



Joe Newton, FSA, EA, MAAA
Pension Market Leader & Actuary



Lewis Ward
Consultant

Executive Summary

The following table summarizes the key results of the June 30, 2024 actuarial valuation of the Employees' Retirement System of the State of Hawaii (ERS).

Item	2024	2023
Membership		
• Number of		
- Active members	65,337	64,243
- Retirees and beneficiaries	55,820	54,973
- Inactive, vested	8,847	8,997
- Total	130,004	128,213
• Covered payroll for active members	\$4,957 million	\$4,663 million
• Actual benefit payments and refunds	\$1,907 million	\$1,822 million
Assets		
• Actuarial (smoothed) value	\$23,841 million	\$22,515 million
• Market value	\$23,701 million	\$22,425 million
• Return on actuarial value	6.8%	6.9%
• Return on market value	6.6%	3.8%
• Employer contributions during fiscal year	\$1,396 million	\$1,274 million
• External cash flow %	(0.8%)	(1.1%)
Actuarial Information		
• Total normal cost % (employee + employer)	14.51%	14.57%
• Unfunded actuarial accrued liability (UAAL)	\$14,008 million	\$13,710 million
• Funded ratio (based on smoothed assets)	63.0%	62.2%
• Funded ratio (based on market assets)	62.6%	61.9%
• Funding period (years) *	22	23
• Employer contribution rate		
% of projected payroll for FY beginning July 1		
Police and Firefighters	41.00%	41.00%
All Other Employees	24.00%	24.00%

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

Actuarial Certification Statement

	Police and Firefighters June 30, 2024	All Other Employees June 30, 2024	All Employees June 30, 2024
1. Gross normal cost as a percentage of pay	27.12%	12.93%	14.51%
2. Present value of future benefits			
a. Active employees	\$ 4,343,140,213	17,498,115,440	21,841,255,653
b. Inactive members	74,514,821	1,155,926,497	1,230,441,318
c. Pensioners and beneficiaries	4,430,844,388	16,779,879,405	21,210,723,793
d. Total	\$ 8,848,499,422	35,433,921,342	44,282,420,764
3. Present value of future employee and employer contributions			
a. Present value of future normal costs	\$ 1,348,751,447	5,084,151,582	6,432,903,029
b. Present value of future employee contributions	707,209,722	2,701,720,336	3,408,930,058
c. Present value of future employer normal cost (Item 3a - Item 3b)	\$ 641,541,725	2,382,431,246	3,023,972,971
4. Actuarial accrued liability (Item 2d - Item 3a)	\$ 7,499,747,975	30,349,769,760	37,849,517,735
5. Actuarial value of assets			
a. Annuity Savings Fund	\$ 1,117,581,315	2,872,203,500	3,989,784,815
b. Pension Accumulation Fund	4,149,491,978	15,701,762,551	19,851,254,529
c. Total	\$ 5,267,073,293	18,573,966,051	23,841,039,344
6. Unfunded actuarial accrued liability	\$ 2,232,674,682	11,775,803,709	14,008,478,391
7. Adequacy of contribution rates			
a. Statutory Contribution Rate for Fiscal Year 2025	41.00%	24.00%	25.89%
B. Funding period in years as of June 30, 2024 *	22	22	22

* The Funding Period is calculated using an open group projection which reflects the impact of both the new employer contribution rates schedule and the benefits and member contribution rates for employees hired after June 30, 2012. It also assumes the current employer contribution rates will remain in place until the System is fully funded.

Actuarial Certification Statement (continued)

The actuarial valuation as of June 30, 2024 is based on the provisions of Chapter 88 of the Hawaii Revised Statutes, as amended. The assumptions used in the cost calculations were those adopted by the Board of Trustees in August of 2022 based on the actuary's actuarial experience investigation report for the period ending June 30, 2021. The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures.

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

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



Joseph P Newton, FSA, EA, MAAA
Pension Market Leader & Actuary

*Assessment and Disclosure of Risk Associated
with Measuring Pension Obligations
and Determining Pension Plan Contributions*

The determination of the accrued liability and an actuarially determined contribution (or funding period) requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and an actuarially determined contribution (or funding period) that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
3. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
4. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
5. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

*Assessment and Disclosure of Risk Associated
with Measuring Pension Obligations
and Determining Pension Plan Contributions (Continued)*

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

ERS SPECIFIC RELATIONSHIP TO CERTAIN RISKS

While ERS has various levels of exposure to all of the risks listed above, in our opinion the three that warrant the most observation for the ERS Board specifically are assumption change risk and affordability risk.

Assumption Change Risk is the potential for the environment to change such that future valuation assumptions are adjusted to be different than the current assumptions. For example, declines in interest rates or increases in earnings multiples over time may result in a change in the assumed rates of return used in the valuation. A healthier workforce may result in changes in employee behavior such that retirement rates are adjusted to reflect employees working longer. And the difference in changing an assumption versus the other experience related risks listed above is instead of the loss slowly building over time, there is the immediate recognition of the change. Over the past decade, the changing of assumptions has increased the liabilities of ERS more than any other source. While those changes were warranted and put ERS on a stronger path going forward, it did cause a setback in many of the actuarial measurements and at least gives the appearance of a weaker System. We do not currently anticipate any significant changes to assumptions in the future and will continue to communicate with the Board if any issues beginning to show.

Affordability Risk is the simple fact that the contributions into ERS are quite large and in order to achieve the benefit security desired by the Board and the beneficiaries of ERS, they must remain high for quite a number of years. State Law requires the actuarial contribution occur and there has been no requests or attempts to lower the amounts, but it will always be a risk a future decision maker does attempt to do so.

This is also risk in a continued contraction in the headcount of active members. As was realized in the 2022 valuation, the contributions into ERS are directly tied to the covered payroll of the active membership and the projection of that payroll is used in determining the funding period. If the headcount were to decline, it would be difficult for the amount of future revenue to meet the current expectations and thus it would likely take more than 22 years to fully amortize the UAAL.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Several generally accepted plan maturity measures are described below and are followed by a table showing a 10-year history of the measurements for ERS.

*Assessment and Disclosure of Risk Associated
with Measuring Pension Obligations
and Determining Pension Plan Contributions (continued)*

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher/lower or increasing/decreasing level of this maturity measure generally indicates a higher/lower or increasing/decreasing volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll (5 to 2 ratio), a change in liability 2% other than assumed would equal 5% of payroll. A higher/lower or increasing/decreasing level of this maturity measure generally indicates a higher/lower or increasing/decreasing volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF ACTUARIAL ACCRUED LIABILITY

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

*Assessment and Disclosure of Risk Associated
with Measuring Pension Obligations
and Determining Pension Plan Contributions (continued)*

ADDITIONAL RISK ASSESSMENT

Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. While a robust measurement of additional risk assessment is outside the scope of the annual actuarial valuation, some scenario tests and sensitivity tests are included in the valuation summary PowerPoint presentation presented to the Board at the Board's January Board Meeting (is available on the ERS website at: <https://ers.ehawaii.gov/resources/financials>).

In addition, an annual stress test as prescribed by state law is conducted each year. Please see the stress test report dated December 24, 2024, which was conducted in conjunction with this valuation (is available on the ERS website at: <https://ers.ehawaii.gov/resources/reports-to-legislature>).

LOW-DEFAULT RISK OBLIGATION MEASURE

ASOP No. 4 was revised and reissued in December 2021 by the ASB. It includes a new calculation called a low-default-risk obligation measure (LDROM) to be prepared and issued annually for defined benefit pension plans. The transmittal memorandum for ASOP No. 4 includes the following explanation:

“The ASB believes that the calculation and disclosure of this measure provides appropriate, useful information for the intended user regarding the funded status of a pension plan. The calculation and disclosure of this additional measure is not intended to suggest that this is the “right” liability measure for a pension plan. However, the ASB does believe that this additional disclosure provides a more complete assessment of a plan’s funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date.”

The LDROM estimates the amount of money the plan would need to invest in low risk securities to provide the benefits with greater certainty. The traditional model based on expected portfolio returns expects lower costs but with higher risk, which creates less certainty and a possibility of higher costs. The LDROM model creates higher expected costs but more predictability when compared to the traditional model. Thus, the difference between the two measures (Valuation and LDROM) is one illustration of the possible costs the sponsor could incur if there was a reduction in the investment risk in comparison to the current diversified portfolio. However, the downside risk would be limited in the scenarios where the current portfolio would fail to achieve returns in excess of the low-default-risk discount, in this case 5.32%.

The following information has been prepared in compliance with this new requirement. Unless otherwise noted, the measurement date, actuarial cost methods, and assumptions used are the same as for the funding valuation covered in this actuarial valuation report.

A.	LDROM measure of benefits earned as of the measurement date:	\$ 46,769 million
B.	Valuation liability at 7% on measurement date:	<u>37,850million</u>
C.	Cost to mitigate investment risk in the System’s portfolio:	\$ 8,919 million

*Assessment and Disclosure of Risk Associated
with Measuring Pension Obligations
and Determining Pension Plan Contributions (continued)*

Disclosures: Discount rate used to calculate LDROM: 5.32% Intermediate FTSE Pension Discount Curve as of June 30, 2024. This measure may not be appropriate for assessing the need for or amount of future contributions as the current portfolio is expected to generate significantly more investment earnings than the low-default-risk portfolio. This measure is also not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation as this measure includes projections of salary increases and the ability for current members to continue to accrue eligibility and vesting service.

	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Ratio of the market value of assets to payroll	4.66	4.67	4.74	4.59	3.75	3.81	3.79	3.68	3.30	3.48
Ratio of actuarial accrued liability to payroll	7.44	7.54	7.55	7.14	7.06	6.95	6.82	6.72	6.44	5.57
Ratio of actives to retirees and beneficiaries	1.17	1.17	1.19	1.25	1.30	1.33	1.36	1.40	1.48	1.52
Ratio of net cash flow to market value of assets	-0.8%	-1.1%	-1.1%	-0.5%	-1.1%	-1.8%	-2.0%	-2.0%	-1.9%	-1.8%
Duration of the actuarial accrued liability*	14.76	14.77	14.88	14.95	15.03	15.11	NA	NA	NA	NA

*Duration measure not available prior to 2019

Summary of 2024 Actuarial Valuation

Exhibit 1 Development of Employer Cost

	Police and Firefighters June 30, 2024	All Other Employees June 30, 2024	All Employees June 30, 2024
1. Projected FY 2024 payroll for contribution purposes	\$ 553,420,240	\$ 4,531,329,081	\$ 5,084,749,321
2. Gross normal cost (Exhibit 3)	27.12%	12.93%	14.51%
3. Employer normal cost rate (Exhibit 3)	14.30%	6.85%	7.68%
4. Present value future benefits (Exhibit 2)	\$ 8,848,499,422	\$ 35,433,921,342	\$ 44,282,420,764
5. Present value future employer normal cost	\$ 641,541,725	\$ 2,382,431,246	\$ 3,023,972,971
6. Present value future employee contributions	\$ 707,209,722	\$ 2,701,720,336	\$ 3,408,930,058
7. Actuarial accrued liability (Item 4 - Item 5 - Item 6)	\$ 7,499,747,975	\$ 30,349,769,760	\$ 37,849,517,735
8. Actuarial value of assets	\$ 5,267,073,293	\$ 18,573,966,051	\$ 23,841,039,344
9. Unfunded actuarial accrued liability (UAAL) (Item 7 - Item 8)	\$ 2,232,674,682	\$ 11,775,803,709	\$ 14,008,478,391
10. Funding period *	22	22	22

	Police and Firefighters June 30, 2023	All Other Employees June 30, 2023	All Employees June 30, 2023
1. Projected FY 2024 payroll for contribution purposes	\$ 535,221,890	\$ 4,270,054,764	\$ 4,805,276,654
2. Gross normal cost (Exhibit 3)	27.21%	12.94%	14.57%
3. Employer normal cost rate (Exhibit 3)	14.43%	7.02%	7.86%
4. Present value future benefits (Exhibit 2)	\$ 8,501,067,997	\$ 33,833,955,012	\$ 42,335,023,009
5. Present value future employer normal cost	\$ 646,300,181	\$ 2,306,438,576	\$ 2,952,738,757
6. Present value future employee contributions	\$ 694,547,730	\$ 2,463,119,269	\$ 3,157,666,999
7. Actuarial accrued liability (Item 4 - Item 5 - Item 6)	\$ 7,160,220,086	\$ 29,064,397,167	\$ 36,224,617,253
8. Actuarial value of assets	\$ 4,927,908,748	\$ 17,587,022,945	\$ 22,514,931,693
9. Unfunded actuarial accrued liability (UAAL) (Item 7 - Item 8)	\$ 2,232,311,338	\$ 11,477,374,222	\$ 13,709,685,560
10. Funding period *	22	23	23

*The Funding Period is calculated using an open group projection which reflects the impact of both the new employer contribution rates schedule and the benefits and member contribution rates for employees hired after June 30, 2012. Please refer to Exhibit 7 for the full projection.

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Summary of 2024 Actuarial Valuation (continued)

Exhibit 2
Actuarial Present Value of Future Benefits

	Police and Firefighters June 30, 2024	All Other Employees June 30, 2024	All Employees June 30, 2024
1. Active members			
a. Service retirement benefits	\$ 4,204,810,942	\$ 16,226,987,525	\$ 20,431,798,467
b. Termination benefits	82,386,038	734,647,600	817,033,638
c. Survivor benefits	16,837,855	134,534,005	151,371,860
d. Disability retirement benefits	39,105,378	401,946,310	441,051,688
e. Total	\$ 4,343,140,213	\$ 17,498,115,440	\$ 21,841,255,653
2. Retired members			
a. Service retirement	\$ 4,149,994,007	\$ 15,444,158,566	\$ 19,594,152,573
b. Disability retirement	41,679,985	335,048,849	376,728,834
c. Beneficiaries	239,170,396	1,000,671,990	1,239,842,386
d. Total	\$ 4,430,844,388	\$ 16,779,879,405	\$ 21,210,723,793
3. Inactive members			
a. Vested terminations	\$ 63,217,629	\$ 925,856,626	\$ 989,074,255
b. Nonvested terminations	11,297,192	230,069,871	241,367,063
c. Total	\$ 74,514,821	\$ 1,155,926,497	\$ 1,230,441,318
4. Total actuarial present value of future benefits	\$ 8,848,499,422	\$ 35,433,921,342	\$ 44,282,420,764

	Police and Firefighters June 30, 2023	All Other Employees June 30, 2023	All Employees June 30, 2023
1. Active members			
a. Service retirement benefits	\$ 4,058,457,708	\$ 15,330,680,665	\$ 19,389,138,373
b. Termination benefits	82,911,291	691,105,278	774,016,569
c. Survivor benefits	16,630,910	128,256,064	144,886,974
d. Disability retirement benefits	38,690,937	374,160,268	412,851,205
e. Total	\$ 4,196,690,846	\$ 16,524,202,275	\$ 20,720,893,121
2. Retired members			
a. Service retirement	\$ 3,973,678,601	\$ 14,905,264,452	\$ 18,878,943,053
b. Disability retirement	40,607,581	322,047,806	362,655,387
c. Beneficiaries	225,641,325	960,403,606	1,186,044,931
d. Total	\$ 4,239,927,507	\$ 16,187,715,864	\$ 20,427,643,371
3. Inactive members			
a. Vested terminations	\$ 55,695,619	\$ 912,548,153	\$ 968,243,772
b. Nonvested terminations	8,754,025	208,488,720	217,242,745
c. Total	\$ 64,449,644	\$ 1,121,036,873	\$ 1,185,486,517
4. Total actuarial present value of future benefits	\$ 8,501,067,997	\$ 33,832,955,012	\$ 42,334,023,009

Gabriel Roeder Smith & Company

Summary of 2024 Actuarial Valuation (continued)

Exhibit 3
Analysis of Normal Cost

	Police and Firefighters June 30, 2024	All Other Employees June 30, 2024	All Employees June 30, 2024
1. Normal cost as a percent of pay			
a. Service retirement benefits	24.33%	9.87%	11.47%
b. Deferred termination benefits	0.88%	0.60%	0.63%
c. Refunds	0.84%	1.41%	1.35%
d. Disability retirement benefits	0.49%	0.53%	0.53%
e. Survivor benefits	0.18%	0.12%	0.13%
f. Administrative expenses	0.40%	0.40%	0.40%
g. Total	27.12%	12.93%	14.51%
2. Employee contribution rate	12.82%	6.08%	6.83%
3. Effective employer normal cost rate (Item 1g – Item 2)	14.30%	6.85%	7.68%

	Police and Firefighters June 30, 2023	All Other Employees June 30, 2023	All Employees June 30, 2023
1. Normal cost as a percent of pay			
a. Service retirement benefits	24.43%	9.90%	11.55%
b. Deferred termination benefits	0.88%	0.61%	0.65%
c. Refunds	0.84%	1.38%	1.32%
d. Disability retirement benefits	0.48%	0.53%	0.52%
e. Survivor benefits	0.18%	0.12%	0.13%
f. Administrative expenses	0.40%	0.40%	0.40%
g. Total	27.21%	12.94%	14.57%
2. Employee contribution rate	12.78%	5.92%	6.71%
3. Effective employer normal cost rate (Item 1g – Item 2)	14.43%	7.02%	7.86%

Summary of 2024 Actuarial Valuation (continued)

Exhibit 4
Development of Actuarial Value of Assets

1. Actuarial value of assets, beginning of year	\$ 22,514,931,693
2. Net new investments	
a. Contributions	\$ 1,738,398,057
b. Benefits paid and Refunds	\$ (1,907,050,135)
c. Administrative expenses	\$ (18,000,678)
d. Subtotal	\$ (186,652,756)
3. Market value of assets at end of year	\$ 23,700,632,356
4. Expected return on actuarial value of assets	\$ 1,569,512,372
5. Expected actuarial value of assets, end of year	\$ 23,897,791,309
6. Excess/(shortfall) return (Item 3-Item 5)	\$ (197,158,953)
7. Development of amounts to be recognized as of June 30, 2024:	

Fiscal Year End	Remaining Deferrals of Excess (Shortfall) of Investment Income (1)	Offsetting of Gains/(Losses) (2)	Net Deferrals Remaining (3) = (1) + (2)	Years Remaining (4)	Recognized for this valuation (5) = (3) / (4)	Remaining after this valuation (6) = (3) - (5)
2021	-	-	-	1	-	-
2022	-	-	-	2	-	-
2023	(89,546,718)	-	(89,546,718)	3	(29,848,906)	(59,697,812)
2024	(107,612,235)	-	(107,612,235)	4	(26,903,059)	(80,709,176)
Total	\$ (197,158,953)	\$ -	\$ (197,158,953)		\$ (56,751,965)	\$ (140,406,988)

8. Actuarial value of assets as of June 30, 2024 (Item 3 - Item 7)	\$ 23,841,039,344
9. Ratio of actuarial value to market value	100.6%
10. Asset gain/(loss) for year (Item 8 - Item 5)	\$ (56,751,965)

Gabriel Roeder Smith & Company

Summary of 2024 Actuarial Valuation (continued)

Exhibit 5
Total Experience Gain or Loss

Item	Police and Firefighters	All Other Employees	All Employees
A. Calculation of total actuarial gain or loss			
1. Unfunded actuarial accrued liability (UAAL), as of June 30, 2024	\$ 2,232,311,338	\$ 11,477,374,222	\$ 13,709,685,560
2. Normal cost for the year (employer and employee)	\$ 150,043,852	\$ 621,605,882	\$ 771,649,734
3. Less: contributions and assessments for the year	\$ (340,908,409)	\$ (1,397,489,648)	\$ (1,738,398,057)
4. Interest at 7.00%			
a. On UAAL	\$ 156,261,794	\$ 803,416,196	\$ 959,677,990
b. On normal cost	5,251,535	21,756,206	27,007,741
c. On contributions	(11,931,794)	(48,912,138)	(60,843,932)
d. Total	\$ 149,581,535	\$ 776,260,264	\$ 925,841,799
5. Expected UAAL as of June 30, 2024 (Sum of Items 1– 4)	\$ 2,191,028,316	\$ 11,477,750,720	\$ 13,668,779,036
6. Actual UAAL as of June 30, 2024	\$ 2,232,674,682	\$ 11,775,803,709	\$ 14,008,478,391
7. Total gain (loss) for the year (Item 5 – Item 6)	\$ (41,646,366)	\$ (298,052,989)	\$ (339,699,355)
B. Source of gains and losses			
8. Asset gain (loss) for the year (Exhibit 6)	\$ (12,522,566)	\$ (44,229,399)	\$ (56,751,965)
9. Gain (loss) due to change in payment timing	-	-	-
10. Other liability gain (loss)	\$ (29,123,800)	\$ (253,823,590)	\$ (282,947,390)
11. Change in benefit provisions	-	-	-
12. Total gain (loss) for the year	\$ (41,646,366)	\$ (298,052,989)	\$ (339,699,355)

Gabriel Roeder Smith & Company

Summary of 2024 Actuarial Valuation (continued)

Exhibit 6
Investment Experience Gain or Loss

Item	June 30, 2024	June 30, 2023
1. Actuarial assets, beginning of year	\$ 22,514,931,693	\$ 21,317,835,653
2. Total contributions during year	\$ 1,738,398,057	\$ 1,583,982,109
3. Benefits and refunds paid	\$ (1,907,050,135)	\$ (1,821,764,569)
4. Administrative expenses paid	\$ (18,000,678)	\$ (18,549,472)
5. Assumed net investment income at 7.00%		
a. Beginning of year assets	\$ 1,576,045,219	\$ 1,492,248,496
b. Contributions	\$ 60,843,932	\$ 55,439,374
c. Benefits and refunds paid	\$ (66,746,755)	\$ (63,761,760)
d. Benefits and refunds paid	\$ (630,024)	\$ (649,232)
e. Total	\$ 1,569,512,372	\$ 1,483,276,878
6. Expected actuarial assets, end of year (Sum of Items 1 through 5)	\$ 23,897,791,309	\$ 22,544,780,599
7. Actual actuarial assets, end of year	\$ 23,841,039,344	\$ 22,514,931,693
8. Asset gain (loss) for year (Item 7– Item 6)	\$ (56,751,965)	\$ (29,848,906)
9. Asset gain (loss) as a percent of actuarial value of assets, end of year (Item 8 / Item 7)	(0.24%)	(0.13%)

Summary of 2024 Actuarial Valuation (continued)

Exhibit 7
Projection Results Based on June 30, 2024 Actuarial Valuation

Valuation as of June 30,	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2024	25.85%	5,086	1,315	37,850	23,841	\$ 14,009	63.0%
2025	25.84%	5,210	1,346	39,170	25,140	\$ 14,030	64.2%
2026	25.82%	5,355	1,383	40,479	26,460	\$ 14,019	65.4%
2027	25.80%	5,505	1,420	41,784	27,814	\$ 13,970	66.6%
2028	25.79%	5,660	1,459	43,083	29,204	\$ 13,879	67.8%
2029	25.77%	5,819	1,500	44,380	30,637	\$ 13,743	69.0%
2030	25.76%	5,984	1,541	45,673	32,116	\$ 13,557	70.3%
2031	25.73%	6,155	1,584	46,962	33,646	\$ 13,316	71.6%
2032	25.73%	6,331	1,629	48,247	35,231	\$ 13,016	73.0%
2033	25.73%	6,512	1,676	59,526	36,878	\$ 22,648	74.5%
2034	25.73%	6,699	1,724	50,801	38,591	\$ 12,210	76.0%
2035	25.73%	6,894	1,774	52,073	40,381	\$ 11,692	77.5%
2036	25.73%	7,094	1,825	53,342	42,253	\$ 11,089	79.2%
2037	25.73%	7,302	1,879	54,609	44,217	\$ 10,392	81.0%
2038	25.73%	7,518	1,935	55,877	46,283	\$ 9,594	82.8%
2039	25.73%	7,744	1,993	57,150	48,463	\$ 8,687	84.8%
2040	25.73%	7,978	2,053	58,431	50,771	\$ 7,660	86.9%
2041	25.73%	8,223	2,116	59,728	53,223	\$ 6,505	89.1%
2042	25.73%	8,475	2,181	61,043	55,833	\$ 5,210	91.5%
2043	25.73%	8,738	2,248	62,380	58,616	\$ 3,764	94.0%
2044	25.73%	9,009	2,318	63,744	61,590	\$ 2,154	96.6%
2045	25.73%	9,289	2,390	65,140	64,773	\$ 367	99.4%
2046	25.73%	9,579	2,465	66,573	68,181	\$ (1,608)	102.4%
2047	25.73%	9,879	2,542	68,047	71,837	\$ (3,790)	105.6%
2048	25.73%	10,190	2,622	69,571	75,761	\$ (6,190)	108.9%
2049	25.73%	10,510	2,704	71,149	79,979	\$ (8,830)	112.4%
2050	25.73%	10,839	2,789	72,785	84,512	\$ (11,727)	116.1%
2051	25.73%	11,179	2,876	74,484	89,383	\$ (14,899)	120.0%
2052	25.73%	11,527	2,966	76,248	94,617	\$ (18,369)	124.1%
2053	25.73%	11,887	3,059	78,080	100,240	\$ (22,160)	128.4%

Projection assumes all assumptions exactly met, including a 7.00% annual return on the current actuarial value of assets.

Gabriel Roeder Smith & Company

Summary of 2024 Actuarial Valuation (continued)

Exhibit 8
Highlights of Last Five Annual Actuarial Valuations
2020 through 2024

Item	Valuation Date: June 30				
	2020	2021	2022	2023	2024
Number of active members	66,750	65,561	64,234	64,243	65,337
Number of inactive members	9,204	9,011	9,031	8,997	8,847
Number of pensioners	46,486	47,724	48,913	49,692	50,389
Number of beneficiaries	4,667	4,894	5,077	5,281	5,431
Average monthly contributory member pension amount	\$ 3,293	\$ 3,458	\$ 3,632	\$ 3,807	\$ 3,971
Average monthly noncontributory member pension amount	\$ 1,773	\$ 1,813	\$ 1,861	\$ 1,909	\$ 1,960
Average monthly hybrid member pension amount	\$ 2,345	\$ 2,416	\$ 2,495	\$ 2,555	\$ 2,625
Average monthly beneficiary amount	\$ 1,610	\$ 1,668	\$ 1,713	\$ 1,771	\$ 1,817
Total actuarial value of assets (\$millions)	\$ 18,084	\$ 19,910	\$ 21,318	\$ 22,515	\$ 23,841
Unfunded actuarial accrued liability (\$millions)	\$ 14,607.4	\$ 14,229.4	\$ 13,504.9	\$ 13,709.7	\$ 14,008.5
Funding Period (in years) ⁽¹⁾	26	24	24	23	22

Item	Fiscal Year				
	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
(Dollar amounts in millions ⁽²⁾)					
Employer contributions ⁽²⁾	\$ 1,098.6	\$ 1,281.6	\$ 1,242.1	\$ 1,274.2	\$ 1,396.3

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

⁽²⁾ Beginning July 1, 2019 the employer contribution rate was 36.0% for Police and Fire, 22.0% for All Others. Beginning July 1, 2020, the employer contribution rate was 41.0% for Police and Fire, 24.0% for All Others.

Summary of Actuarial Methods and Assumptions

Basis for assumption setting: The actuarial assumptions were adopted by the Board on August 8, 2022. Rationale for the recommendations are in the most recent experience study dated June 14, 2022.

I. Valuation Date

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

II. Actuarial Cost Method

The normal cost and actuarial accrued liability are determined using the Entry Age Actuarial Cost Method. The actuarial accrued liability is assigned to years prior to the valuation, and the normal cost is assigned to the year following the valuation. The remaining costs are assigned to future years. The normal cost and accrued liability are determined on an individual basis.

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

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

III. Funding of Unfunded Actuarial Accrued Liability

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

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

Please see Section V of this table for a description of the new entrant profile used in the open group projection.

Summary of Actuarial Methods and Assumptions (continued)

IV. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a four-year phase-in of actual investment return in excess of/(less than) expected investment income. Offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. The expected actuarial value of assets is calculated net of investment expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's actuarial value of assets, adjusted for contributions, benefits paid, and refunds.

V. New Entrant Profile

For the purposes of determining the funding period, an open group projection is used which replaces on a one-to-one basis each active member who leaves employment with an average new hire. The average new hire is determined based on a new entrant profile, which is created from the valuation data by determining the entry age and entry pay for anyone with seven or less years of service as of the valuation date. Each group of new hires' salaries is assumed to grow at the General Wage Inflation over the salaries of the previous year's group.

The new entrant profile for members assumed to be hired during the year following the valuation date for the Police and Fire Employees and the All Other Employees are shown in the table below.

New Entrant Profile for Police and Fire Employees		
Entry Age	# of Employees	Average Salary
15-19	3	\$61,201
20-24	269	69,513
25-29	400	68,341
30-34	299	67,827
35-39	130	67,607
40-44	46	69,374
45-49	18	71,265
50-54	8	104,858
55-59	8	84,861
60+	1	64,503
Total	1,182	68,819

It is assumed that 90% of new hires will be male.

Summary of Actuarial Methods and Assumptions (continued)

New Entrant Profile for All Other Employees		
Entry Age	# of Employees	Average Salary
15-19	22	\$43,491
20-24	1,729	53,099
25-29	3,438	56,065
30-34	2,979	58,010
35-39	2,581	59,630
40-44	2,244	59,308
45-49	1,900	58,198
50-54	1,530	58,652
55-59	1,236	58,531
60-64	624	59,685
65+	98	59,896
Total	18,381	57,727

It is assumed that 40% of new hires will be male and Teachers replace Teachers and Non-Teachers replace Non-Teachers.

VI. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 7.00% per year, compounded annually, composed of an assumed 2.50% inflation rate and a 4.50% net real rate of return (net of investment expenses).
2. General Wage Inflation: (used to index each year's group of new entrants in the open group projection) 3.50% per annum for Police and Fire Employees and 3.00% per annum for General Employees and Teachers.

Summary of Actuarial Methods and Assumptions (continued)

3. Salary increase rates: As shown below

Years of Service	General Employees		Teachers	
	Service-related Component	Total Rate Including 2.50% Inflation Component and 1.25% Productivity Component	Service-Related Component	Total Rate Including 2.50% Inflation Component and 1.25% Productivity Component
1	3.00%	6.75%	3.00%	6.75%
2	3.00%	6.75%	3.00%	6.75%
3	2.00%	5.75%	2.00%	5.75%
4	1.50%	5.25%	1.50%	5.25%
5	1.50%	5.25%	1.50%	5.25%
6	1.25%	5.00%	1.25%	5.00%
7	1.25%	5.00%	1.25%	5.00%
8	1.00%	4.75%	1.00%	4.75%
9	1.00%	4.75%	1.00%	4.75%
10	1.00%	4.75%	1.00%	4.75%
11	0.75%	4.50%	0.75%	4.50%
12	0.75%	4.50%	0.75%	4.50%
13	0.50%	4.25%	0.50%	4.25%
14	0.50%	4.25%	0.50%	4.25%
15	0.50%	4.25%	0.50%	4.25%
16	0.50%	4.25%	0.50%	4.25%
17	0.50%	4.25%	0.50%	4.25%
18	0.50%	4.25%	0.50%	4.25%
19	0.50%	4.25%	0.50%	4.25%
20	0.25%	4.00%	0.25%	4.00%
21	0.25%	4.00%	0.25%	4.00%
22	0.25%	4.00%	0.25%	4.00%
23	0.25%	4.00%	0.25%	4.00%
24	0.25%	4.00%	0.25%	4.00%
25 or more	0.00%	3.75%	0.00%	3.75%

Summary of Actuarial Methods and Assumptions (continued)

3. Salary increase rates (continued):

Police & Firefighters		
Years of Service	Service-related Component	Total Annual Rate of Increase Including 2.50% Inflation Component and 2.50% General Increase Rate
1	1.00%	6.00%
2	1.00%	6.00%
3	1.00%	6.00%
4	1.00%	6.00%
5	1.00%	6.00%
6	1.00%	6.00%
7	1.00%	6.00%
8	1.00%	6.00%
9	1.00%	6.00%
10	1.00%	6.00%
11	1.00%	6.00%
12	1.00%	6.00%
13	1.00%	6.00%
14	1.00%	6.00%
15	1.00%	6.00%
16	0.75%	5.75%
17	0.75%	5.75%
18	0.75%	5.75%
19	0.50%	5.50%
20	0.50%	5.50%
21	0.50%	5.50%
22	0.25%	5.25%
23	0.25%	5.25%
24	0.25%	5.25%
25 or more	0.00%	5.00%

Salary increases are assumed to occur once a year, on July 1. Therefore the pay used for the period between the valuation date and the first anniversary of the valuation date is equal to the reported pay for the prior year, annualized if necessary, and then increased by the salary increase assumption. To adjust the pays received as of March 31st to the June 30th valuation date, the reported pay for each member is increased by 1%.

Summary of Actuarial Methods and Assumptions (continued)

B. Demographic Assumptions**1. Mortality rates**

Active Members: Multiples of the Pub-2010, Employee Table for active employees based on the occupation of the member as follows:

	General Employees	Teachers	Police and Fire
Type	<u>Male & Female</u>	<u>Male & Female</u>	<u>Male & Female</u>
Ordinary	94%	92%	80%
% of Ordinary Choosing Annuity	41%	52%	24%
Duty Related	6%	8%	20%

Healthy Retirees: The 2022 Public Retirees of Hawaii mortality tables. The rates are projected on a fully generational basis by Scale MP from the year 2022 (with immediate convergence) and with multiplier and setbacks based on plan and group experience. The following are sample rates of the base table as of 2022 with the corresponding multipliers:

Healthy Annuitant Mortality Rates Before Projection (Multiplier Applied)						
	General Employees		Teachers		Police and Fire	
Age	Males	Females	Males	Females	Males	Females
50	0.2094%	0.1276%	0.1698%	0.0951%	0.2421%	0.1130%
55	0.3215%	0.1687%	0.2883%	0.1596%	0.3473%	0.1633%
60	0.5570%	0.3095%	0.4672%	0.2467%	0.6179%	0.2799%
65	0.8041%	0.4488%	0.7256%	0.4063%	0.8426%	0.4283%
70	1.2621%	0.7066%	1.0762%	0.6015%	1.4172%	0.6565%
75	2.0700%	1.0964%	1.7879%	0.9358%	2.3227%	1.0121%
80	3.5996%	2.1275%	3.0429%	1.6565%	4.1824%	1.8863%
85	6.5891%	4.1569%	5.5564%	3.2698%	7.6513%	3.6977%
90	11.9340%	8.3647%	10.1056%	6.5007%	13.6689%	7.3991%
Multiplier	102%	98%	97%	101%	93%	100%
Setback	0	-1	1	1	-2	0

Summary of Actuarial Methods and Assumptions (continued)

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection:

<u>Life Expectancy for an Age 65 Retiree in Years</u>					
Gender	Year of Retirement				
	2025	2030	2035	2040	2045
<u>General Retirees</u>					
Male	22.8	23.2	23.5	23.9	24.2
Female	26.3	26.6	26.9	27.2	27.5
<u>Teachers</u>					
Male	24.1	24.5	24.9	25.2	25.5
Female	28.0	28.3	28.6	28.9	29.2
<u>Police and Fire</u>					
Male	21.8	22.1	22.4	22.8	23.1
Female	27.1	27.4	27.7	28.0	28.3

Disabled retirees: Base Table for healthy retiree's occupation, set forward 3 years, generational projection using the MP projection table from the year 2022 with immediate convergence. Minimum mortality rate of 3.5% for males and 2.5% for females.

2. Disability rates – The assumed total disability rates at select ages are multiples of the client specific table that follows:

Age	Male & Female
25	0.000%
30	0.001%
35	0.008%
40	0.026%
45	0.064%
50	0.146%
55	0.198%
60	0.212%

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

Type	General Employees	Teachers	Police & Fire
	Male & Female	Male & Female	Male & Female
Ordinary	200%	100%	50%
Accidental	60%	8%	120%

Summary of Actuarial Methods and Assumptions (continued)

3. Termination Rates - Same male and female rates, based solely on the member's service. Rates reflect terminations for causes other than death, disability or retirement. Employees eligible for retirement are assumed to have no probability of termination. Sample rates are shown below:

Years of Service	Expected Terminations per 1000 Lives (Male & Female)		
	General Employees	Teachers	Police & Fire
0	177.2	0.0	140.0
1	142.2	197.9	52.4
2	114.2	165.2	41.3
3	92.0	134.8	34.8
4	74.8	108.2	30.2
5	61.7	86.3	26.6
6	51.9	69.4	23.7
7	44.7	57.3	21.3
8	39.6	49.4	19.1
9	35.8	44.5	17.2
10	32.8	41.0	15.6
11	30.3	35.8	10.6
12	27.9	32.4	10.0
13	22.6	29.1	9.4
14	19.8	26.1	8.8
15	17.7	23.2	8.2
16	16.1	20.6	7.6
17	14.8	18.1	7.0
18	13.7	15.8	6.4
19	12.8	13.6	5.8
20	11.9	11.7	5.2
21	11.1	10.0	4.6
22	10.2	8.4	4.0
23	9.3	7.0	3.4
24	8.3	5.8	2.8
25	7.1	4.8	0.0
26	6.0	4.0	0.0
27	4.7	3.3	0.0
28	3.5	2.8	0.0
29	2.4	2.6	0.0
30	0.0	2.5	0.0
31 and more	0.0	0.0	0.0

Summary of Actuarial Methods and Assumptions (continued)

4. Retirement rates - separate male and female rates, based on age. Sample rates are shown below:

Contributory Members

Expected Retirements per 100 Lives									
Age	General Employees				Teachers				Police & Fire
	Unreduced Retirement		Reduced Retirement		Unreduced Retirement		Reduced Retirement		Unreduced Retirement
	Male	Female	Male	Female	Male	Female	Male	Female	Male & Female
45	0	0	0	0	0	0	0	0	16
46	0	0	0	0	0	0	0	0	16
47	0	0	0	0	0	0	0	0	16
48	0	0	0	0	0	0	0	0	16
49	0	0	0	0	0	0	0	0	16
50	0	0	0	0	0	0	1	0	18
51	0	0	2	1	0	0	1	1	18
52	0	0	2	1	0	0	1	1	18
53	0	0	2	1	0	0	2	2	18
54	0	0	3	2	0	0	3	3	18
55	25	20			20	18			22
56	25	20			15	16			22
57	16	13			15	16			22
58	16	13			15	16			24
59	13	13			15	16			27
60	13	15			14	18			30
61	13	15			14	18			30
62	28	25			14	25			30
63	20	20			14	20			30
64	20	20			14	15			30
65	20	20			20	25			100
66	18	20			15	25			100
67	18	20			15	20			100
68	18	20			15	20			100
69	18	20			15	20			100
70	20	20			15	20			100
71	20	20			15	20			100
72	20	20			15	20			100
73	20	20			15	20			100
74	20	20			15	20			100
75	100	100			100	100			100

For members hired after June 30, 2012 the retirement rates for members once they reach unreduced retirement eligibility are increased 10% (multiplicative) for each year the member is beyond the age the member would have been eligible under the provisions for members hired prior to June 30, 2012.

Summary of Actuarial Methods and Assumptions (continued)

Noncontributory Members

Expected Retirements per 100 Lives										
Age	General Employees						Teachers			
	Unreduced Retirement		25 & Out		Reduced Retirement		Unreduced Retirement		Reduced Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
55	20	11	15	11	1	1	10	13	1	2
56	18	11	23	11	1	1	10	7	1	2
57	13	11	18	11	1	1	10	8	1	2
58	10	11	15	11	2	2	10	10	2	2
59	10	11	15	11	2	2	10	20	3	3
60	10	14	15	14	4	4	10	11	5	5
61	11	18	16	18	4	4	10	16	7	5
62	20	20	25	20			16	25		
63	20	20	25	20			12	20		
64	12	20	17	20			10	15		
65	14	20	19	20			20	25		
66	20	20	25	20			15	25		
67	20	20	25	20			15	25		
68	20	20	25	20			15	25		
69	20	20	25	20			15	25		
70	20	20	25	20			15	25		
71	20	20	25	20			15	25		
72	20	20	25	20			15	25		
73	20	20	25	20			15	25		
74	20	20	25	20			15	25		
75	100	100	100	100			100	100		

Note: Retirement rates for the 25&out group prior to age 55 are 15% for male and 11% for female.

Summary of Actuarial Methods and Assumptions (continued)
Hybrid Members

Expected Retirements per 100 Lives								
Age	General Employees				Teachers			
	Unreduced Retirement		Reduced Retirement		Unreduced Retirement		Reduced Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female
55	18	18	1	1	20	16	2	2
56	12	13	1	1	13	10	2	2
57	12	13	1	1	13	10	2	2
58	16	13	2	2	13	12	2	2
59	16	13	2	2	13	12	3	3
60	14	13	4	4	14	14	3	5
61	14	15	4	4	14	18	3	10
62	21	20			22	30		
63	18	20			14	20		
64	18	20			14	20		
65	21	20			20	25		
66	18	18			15	25		
67	18	18			15	25		
68	18	18			15	25		
69	18	18			15	25		
70	20	20			15	25		
71	20	20			15	25		
72	20	20			15	25		
73	20	20			15	25		
74	20	20			15	25		
75	100	100			100	100		

Note: For the 25&out group with membership dates before July 1, 2012, the retirement rates prior to age 55 are 6% for both male and female.

For members hired after June 30, 2012 the retirement rates for members once they reach unreduced retirement eligibility are increased 10% (multiplicative) for each year the member is beyond the age the member would have been eligible under the Hybrid provisions for members hired prior to June 30, 2012.

Summary of Actuarial Methods and Assumptions (continued)

C. Other Assumptions

1. Projected payroll for contributions: The aggregate projected payroll for the fiscal year following the valuation date is calculated by increasing the actual payroll paid during the previous fiscal year by the payroll growth rate and multiplying by the ratio of current active members to the average number of active members during the previous fiscal year.
2. Age difference: Male members are assumed to be four years older than their spouses, and female members are assumed to be four years younger than their spouses.
3. Marriage Assumption: While not implicitly used in the valuation, 100% of active members are assumed to be married when setting other benefit election and eligibility assumptions.
4. Percent electing annuity on death for contributory participants (when eligible): All of the spouses of married participants who die after becoming eligible for a retirement benefit are assumed to elect an annuity or a refund, whichever is more valuable at time of participant's death.
5. Payment Option: Future healthy retirees are assumed to choose the life only payment option. 50% of future disabled retirees are assumed to choose the 100% Joint and Survivor option.
6. Percent electing deferred termination benefit: vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
7. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt when eligible for early retirement.
8. Administrative expenses: Administrative expenses are assumed to be 0.40% of active member payroll.
9. Reemployment, purchase of service, transfers: No recognition is made of (i) future member reimbursements upon reemployment, (ii) future purchase of additional service, or (iii) special transfer provisions.
10. Sick Leave: It is assumed that all members will have their benefit service increased by sick leave and the following loads will be applied by group:

General Employees	3.25%
Teachers	3.75%
Police and Fire	5.00%

Summary of Actuarial Methods and Assumptions (continued)

11. COLA delay: It is assumed that the first COLA will be received 9 months after retirement. Teachers are assumed to receive COLA 12 months after retirement.
12. There will be no recoveries once disabled.
13. No surviving spouse will remarry and there will be no children's benefit.
14. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
15. Decrement timing: Retirements and terminations of Teachers are assumed to occur at the beginning of the year. All other decrements are assumed to occur mid-year.
16. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
17. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
18. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
19. Benefit Service: All members are assumed to accrue 1 year of service each year. Exact fractional service is used to determine the amount of benefit payable.
20. Police officers, firefighters, investigators of the Department of the Prosecuting Attorney and the Attorney General, narcotic enforcement investigators, and public safety investigators hired prior to June 30, 2012 are not assumed to retire at age 55 unless they have 10 years of service.

VII. Participant Data

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

Salary supplied for the current year was based on the actual pensionable earnings for the 12-month period ending the March preceding the valuation date. This pay was increased by 1% to reflect the three-month difference from March to June. For members with less than one year of service, the base pay rate provided in the data was used.

*Summary of Actuarial Methods and Assumptions (continued)**VIII. Dates of Adoption of Assumptions and Methods*

The actuarial assumptions and methods were adopted by the Board of Trustees on August 8, 2022 as recommended by Gabriel, Roeder, Smith & Company (GRS)

IX. Changes in Assumptions and Methods since Prior Valuation

The actuarial assumptions have been revised since the prior valuation. Please see our Experience Study report dated June 14, 2022 for a more extensive discussion of the changes in the actuarial assumptions and the rationale for the current assumptions.

*Summary of Actuarial Methods and Assumptions (continued)***Summary of Plan Changes****Act 65, effective July 1, 1999**

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

Act 100, effective June 30, 1999

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

Act 284, effective June 30, 2001

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

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

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

Act 199, effective June 30, 2003

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

Act 177, effective July 1, 2004

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

Summary of Plan Changes (continued)

Act 179, effective July 1, 2004

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

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

Act 181, effective July 1, 2004

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

Act 183, effective July 1, 2004

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

Act 56, effective December 1, 2004

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

Act 256, effective July 5, 2007

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

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

Summary of Actuarial Methods and Assumptions (continued)

Summary of Plan Changes (continued)

Act 163, effective June 23, 2011

Legislation was enacted that increased the future employer contribution rates to ERS. Employers of Police and Fire employees will contribute 22.0% of pay in FY 2013, 23.0% in FY 2014, 24.0% in FY 2015, and 25.0% in FY 2016 and beyond. Employers of All Other Employees will contribute 15.5% of pay in FY 2013, 16.0% in FY 2014, 16.5% in FY 2015, and 17.0% in FY 2016 and beyond.

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

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

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

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

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

Summary of Plan Changes (continued)**Act 152, effective June 26, 2012**

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

Act 153, effective June 26, 2012

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

Act 017, effective July 1, 2017

Legislation was enacted that increased the future employer contribution rates to ERS. Employers of Police and Fire employees will contribute 28% of pay in FY 2018, 31% in FY 2019, 36% in FY 2020, and 41% in FY 2021 and beyond. Employers of All Other Employees will contribute 18% of pay in FY 2018, 19% in FY 2019, 22% in FY 2020, and 24% in FY 2021 and beyond.

Act 192, effective June 30, 2024

Legislation was enacted by the 2024 Legislature that set the maximum funding period to 25 years for the June 30, 2024 valuation. Furthermore, the funding period will decrease by one year each year in the future until the maximum funding period is 20 years where it will remain for future years. If the maximum funding period is exceeded then the contribution rates may be increased to bring the funding period down to the maximum funding period.

*Ten-Year Actuarial Schedules***Summary of ERS Funding**

The ERS is governed by Chapter 88, Hawaii Revised Statutes (HRS), plus the administrative rules, policies, and procedures of the Board of Trustees. The ERS is funded by investment earnings, employer contributions, and member contributions. (Refer to the Investment Section for more information on investment policies and procedures.)

Contribution rates are established by Law that, over time, are intended to remain level as a percent of payroll. The employee and employer contribution rates have been set by Law and are intended to provide for the normal costs (which pays the current year's cost) of the ERS and to amortize the unfunded actuarial accrued liability (UAAL) over a reasonable amount of time, which will ensure benefit security and intergenerational equity.

As required by Law the ERS performs an actuarial investigation of the experience at least once every 3 (three) years, and an annual actuarial valuation of the assets and liabilities of the funds of the pension trust. The primary purpose of the valuation report is to determine the adequacy of the current employer contribution rate through measuring the resulting funding period, to describe the current financial condition of ERS, and to analyze changes in ERS's condition. Since the State statutes governing the ERS establish the employee and employer contribution rates, the actuarial valuation determines the number of years required to amortize (or fund) the UAAL.

The actuary uses the entry age normal cost funding method in valuations as required by Law. The Board of Trustees adopts economic, mortality, service, and other assumptions, factors, and tables as deemed appropriate and necessary, based on the actuarial investigation and actuary recommendation.

Employer contribution rates are subject to adjustment (per HRS§88-122(e)(1)) when the funding period exceeds the maximum funding period, or there is no unfunded accrued liability. (The maximum funding period was 30 years for the June 30, 2023 actuarial valuation, and earlier.) Per Act 192 (SLH 2024) the maximum funding period is set to 25 years for the June 30, 2024 valuation. Furthermore, the funding period will decrease by one-year annually in the future until the maximum funding period is 20 years for the June 30, 2029 valuation, where it will remain for future years. If the maximum funding period is exceeded then the contribution rates may be increased to bring the funding period down to the maximum funding period.

The actuary through the Board recommends based on the actuarial investigation, the appropriate adjustments to the employer contribution rates discussed above.

*Ten-Year Actuarial Schedules (continued)***Ten Year Actuarial Schedules
2015 to 2024**

- Retirement System Membership **
 - 2024 Membership Data *
- Historical Summary of Active Member Data *
- Pensioners, Average Annual Pension and Active Member/Pensioner Comparison **
- Number of Retirants and Beneficiaries **
- Solvency Test **
- Employer Contribution Rates as a Percentage of Payroll **
- Employer Appropriations to Pension Accumulation Fund, Appropriation Years 2014-2015 to 2023-2024 **

Note: * Prepared by Gabriel, Roeder, Smith & Company
 ** Compiled by ERS Staff from actuary reports, or other data.

**Retirement System Membership **
2015 to 2024**

<u>March 31,</u>	<u>Active Members</u>	<u>Terminated Vested Members</u>	<u>Inactive Nonvested Members (a)</u>	<u>Pensioners & Beneficiaries</u>	<u>Total Membership</u>
2015	67,310	7,413	13,840	44,283	132,846
2016	67,377	7,741	14,554	45,506	135,178
2017	65,911	9,241	16,482	46,927	138,561
2018	66,271	9,249	17,819	48,569	141,908
2019	66,383	9,321	19,533	49,885	145,122
2020	66,750	9,204	20,985	51,153	148,092
2021	65,561	9,011	22,226	52,618	149,416
2022	64,234	9,031	24,872	53,990	152,127
2023	64,243	8,997	26,900	54,973	155,113
2024	65,337	8,847	28,556	55,820	158,560

** Schedule compiled by ERS Staff from actuary reports.

(a) Number not reported in prior years, included in counts for GASB Statement No. 68 reporting.
 n/a = not available

*Ten-Year Actuarial Schedules (continued)***2024 Membership Data**

	Police and Firefighters		All Other Employees		All Employees	
	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023	June 30, 2024	June 30, 2023
1. Active members						
a. Number	4,791	4,832	60,546	59,411	65,337	64,243
b. Total payroll	\$ 534,705,546	\$ 517,122,519	\$4,422,204,186	\$4,146,359,643	\$4,956,909,732	\$4,663,482,242
c. Average salary	\$ 111,606	\$ 107,020	\$ 73,039	\$ 69,791	\$ 75,867	\$ 72,591
d. Average age	42.5	42.5	48.3	48.4	47.9	48.0
e. Average service	14.1	14.0	12.8	13.0	12.9	13.1
2. Inactive members						
a. Number	235	228	8,612	8,769	8,847	8,997
b. Total annual deferred benefits	\$ 6,055,757	\$ 5,331,907	\$ 107,356,266	\$ 107,547,445	\$ 113,412,023	\$ 112,879,352
c. Average annual deferred benefit	\$ 25,769	\$ 23,386	\$ 12,466	\$ 12,265	\$ 12,819	\$ 12,546
3. Service retirees						
a. Number	4,207	4,156	44,413	43,782	48,620	47,938
b. Total annual benefits	\$ 306,722,571	\$ 293,231,396	\$1,365,908,147	\$1,315,364,185	\$1,672,630,718	\$1,608,595,581
c. Average annual benefit	\$ 72,908	\$ 70,556	\$ 30,753	\$ 30,043	\$ 34,402	\$ 33,556
4. Disabled retirees						
a. Number	124	124	1,645	1,630	1,769	1,754
b. Total annual benefits	\$ 3,692,776	\$ 3,573,996	\$ 27,749,273	\$ 26,638,064	\$ 31,442,049	\$ 30,212,060
c. Average annual benefit	\$ 29,780	\$ 28,823	\$ 16,869	\$ 16,342	\$ 17,774	\$ 17,225
5. Beneficiaries						
a. Number	429	407	5,002	4,874	5,431	5,281
b. Total annual benefits	\$ 20,511,498	\$ 18,958,831	\$ 97,877,735	\$ 93,297,190	\$ 118,389,233	\$ 112,256,021
c. Average annual benefit	\$ 47,812	\$ 46,582	\$ 19,568	\$ 19,142	\$ 21,799	\$ 21,257

- (a) As of June 30, 2014 - Terminated vested members does not include 11,247 Inactive members that may return to service and earn additional service credits to become vested (612 Police and firefighters plus 10,635 All other employees). As of June 30, 2015, there were 13,840 (568 Police and firefighters plus 13,272 All other employees). As of June 30, 2016, there were 14,554 (599 Police and firefighters plus 13,955 All other employees). As of June 30, 2017, there were 16,482 (641 Police and firefighters plus 15,841 All other employees). As of June 30, 2018, there were 17,819 (666 Police and firefighters plus 17,153 All other employees). As of June 30, 2019, there were 19,533 (721 Police and firefighters plus 18,812 All other employees). As of June 30, 2020, there were 20,985 (788 Police and firefighters plus 20,197 All other employees). As of June 30, 2021, there were 21,226 (869 Police and firefighters plus 21,357 All other employees). As of June 30, 2022, there were 24,872 (1001 Police and firefighters plus 23,903 All other employees). As of June 30, 2023, there were 26,900 (969 Police and firefighters plus 25,899 All other employees). As of June 30, 2024, there were 28,556 (1,061 Police and firefighters plus 27,495 All other employees).

*Ten-Year Actuarial Schedules (continued)***Historical Summary of Active Member Data**

Year Ending June 30,	Active Members		Covered Payroll		Average Salary		Average Age	Average Service
	Number	Percent Change	Amount in \$ Millions	Percent Change	\$ Amount	Percent Change		
2015	67,310	0.2%	3,952.6	2.1%	58,723	1.9%	47.8	13.2
2016	67,377	0.1%	4,118.4	4.2%	61,124	4.1%	47.9	13.3
2017	65,911	-2.2%	4,134.2	0.4%	62,723	2.6%	48.0	13.3
2018	66,271	0.5%	4,257.2	3.0%	64,240	2.4%	47.9	13.2
2019	66,383	0.2%	4,393.0	3.2%	66,176	3.0%	47.9	13.1
2020	66,750	0.6%	4,523.4	3.0%	67,766	2.4%	47.9	13.1
2021	65,561	-1.8%	4,622.0	2.2%	70,499	4.0%	48.0	13.2
2022	64,234	-2.0%	4,537.2	-1.8%	70,635	0.2%	48.0	13.2
2023	64,243	0.0%	4,663.5	2.8%	72,591	2.8%	48.0	13.1
2024	65,337	1.7%	4,956.9	6.3%	75,867	4.5%	47.9	12.9

*Ten-Year Actuarial Schedules (continued)***Pensioners, Average Annual Pension and
Active Member/Pensioner Comparison******2015 to 2024**

March 31,	Number of Pensioners	Average Annual Pension (1)	Ratio of Active Members per Pensioner
2015	40,657	\$26,671	1.7
2016	41,654	\$27,260	1.6
2017	42,857	\$27,946	1.5
2018	44,305	\$28,745	1.5
2019	45,440	\$29,847	1.5
2020	46,486	\$30,312	1.4
2021	47,724	\$31,766	1.4
2022	48,913	\$32,127	1.3
2023	49,692	\$33,556	1.3
2024	50,389	\$34,402	1.3

** Schedule compiled by ERS Staff from actuary reports.

- (1) Pension amount includes base pension plus 2.5% (if membership date is before July 1, 2012) or 1.5% (if membership date is after June 30, 2012) post-retirement increases (excludes other bonuses and cost-of-living adjustments).

Number of Retirants and Beneficiaries****2015 to 2024**

As of Mar 31,	Added	Average Added to Rolls	Removed	Average Removed from Rolls	Total	Average Pension	% Chg
Retirants							
2015	2,229	\$22,997	1,252	\$19,820	40,657	\$26,671	2.45%
2016	2,237	\$23,785	1,240	\$20,694	41,654	\$27,260	2.21%
2017	2,402	\$28,043	1,199	\$21,286	42,857	\$27,946	2.52%
2018	2,709	\$28,712	1,261	\$21,995	44,305	\$28,745	2.86%
2019	2,448	\$28,248	1,313	\$23,323	45,440	\$29,487	2.58%
2020	2,430	\$29,555	1,384	\$23,269	46,486	\$30,312	2.80%
2021	2,608	\$31,438	1,370	\$25,041	47,724	\$31,191	2.90%
2022	2,636	\$32,304	1,447	\$24,946	48,913	\$32,127	3.00%
2023	2,387	\$30,821	1,608	\$26,137	49,692	\$32,979	2.65%
2024	2,234	\$32,771	1,537	\$27,049	50,389	\$33,818	2.54%
Beneficiaries							
2015	310	\$19,597	91	\$12,530	3,626	\$16,337	4.38%
2016	325	\$20,598	99	\$14,371	3,852	\$17,022	4.19%
2017	333	\$19,992	115	\$13,012	4,070	\$17,663	3.77%
2018	336	\$19,355	142	\$15,036	4,264	\$18,177	2.91%
2019	326	\$19,807	148	\$15,282	4,445	\$18,699	2.87%
2020	373	\$21,025	151	\$15,493	4,667	\$19,316	3.30%
2021	381	\$23,159	154	\$16,835	4,894	\$20,014	3.61%
2022	364	\$22,702	181	\$19,702	5,077	\$20,553	2.69%
2023	401	\$20,553	197	\$18,192	5,281	\$21,257	3.43%
2024	368	\$23,232	218	\$19,831	5,431	\$21,799	2.55%

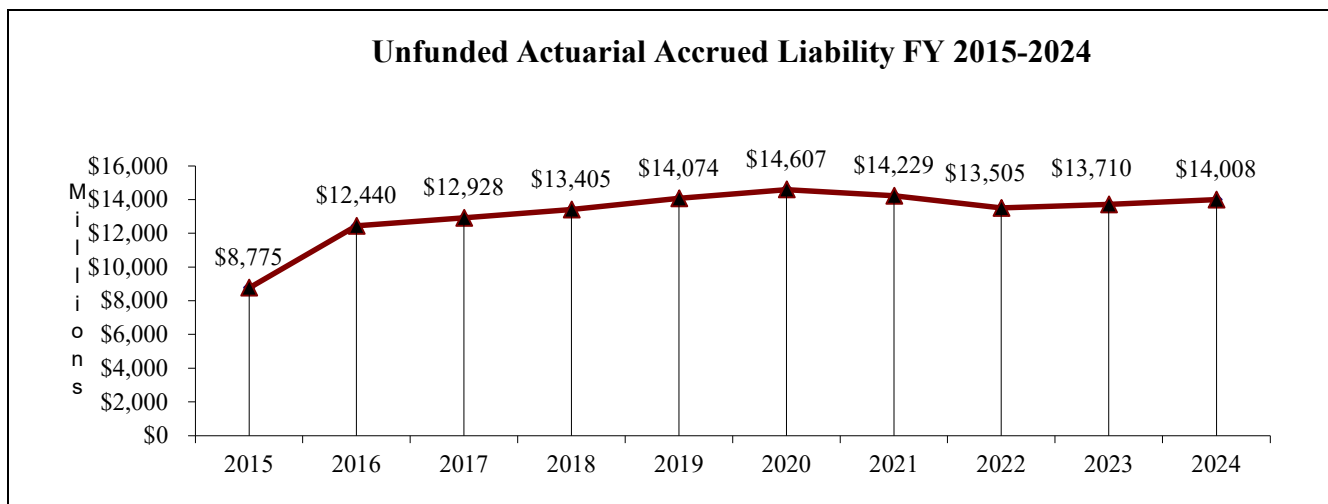
** Schedule compiled by ERS staff from actuary reports.

*Ten-Year Actuarial Schedules (continued)***Solvency Test****
2015 to 2024

June 30,	Actuarial Accrued Liabilities (AAL)			Actuarial Value of Assets	Cumulative Portion of Actuarial Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirees, Beneficiaries, and Inactive Vested Members	Active and Inactive Members Employer Financed Portion		Column (1)	Column (2)	Column (3)
	(1)	(2)	(3)		(5)	(6)	(7)
2015	1,981.8	12,321.8	8,934.8	14,463.7	100%	100%	2%
2016	2,150.4	14,228.2	11,060.6	14,998.7	100%	90%	0%
2017	2,183.2	15,020.6	11,444.8	15,720.6	100%	90%	0%
2018	2,181.3	16,008.8	11,727.3	16,512.7	100%	90%	0%
2019	2,202.2	16,871.1	12,323.1	17,322.2	100%	90%	0%
2020	2,231.4	17,720.9	12,739.5	18,084.4	100%	89%	0%
2021	2,243.2	18,728.9	13,167.0	19,909.8	100%	94%	0%
2022	2,249.4	19,633.8	12,939.6	21,317.8	100%	97%	0 %
2023	2,290.4	20,428.6	13,505.5	22,514.9	100%	99%	0.0%
2024	3,437.9	21,210.7	13,200.8	23,841.0	100%	96%	0.0%

(Amounts in \$millions)

** Schedule compiled by ERS Staff from actuary reports



*Ten-Year Actuarial Schedules (continued)***Employer Contribution Rates as a Percentage of Payroll ****
2015 to 2024

Actuarial Valuation as of June 30,	Police and Firefighters			All Other Employees			All Active Employees		
	Normal Cost Rate	Amorti- zation Percent	Total Employer Rate	Normal Cost Rate	Amorti- zation Percent	Total Employer Rate	Normal Cost Rate	Amorti- zation Percent	Total Employer Rate
2015 *	8.04%	15.96%	24.00%	5.76%	10.74%	16.50%	6.02%	11.26%	17.28%
2016 *	13.32%	11.68%	25.00%	7.57%	9.43%	17.00%	8.23%	9.66%	17.89%
2017 *	13.13%	11.87%	25.00%	7.33%	9.67%	17.00%	8.02%	9.89%	17.91%
2018 *	12.97%	15.03%	28.00%	7.14%	10.86%	18.00%	7.82%	11.34%	19.16%
2019 *	14.02%	16.98%	31.00%	7.07%	11.93%	19.00%	7.89%	12.47%	20.36%
2020 *	13.78%	22.22%	36.00%	6.90%	15.10%	22.00%	7.73%	15.88%	23.61%
2021 *	13.53%	27.47%	41.00%	6.77%	17.23%	24.00%	7.57%	18.37%	25.94%
2022 *	14.56%	26.44%	41.00%	7.17%	16.83%	24.00%	8.01%	17.91%	25.92%
2023 *	14.43%	26.57%	41.00%	7.02%	16.98%	24.00%	7.86%	17.93%	25.89%
2024 *	14.30%	26.70%	41.00%	6.85%	17.15%	24.00%	7.68%	18.17%	25.85%

Effective with the June 30, 2004 valuation, the employer contribution rate is statutorily changed to a percentage of pay of 15.75% of actual pay for Police and Fire and 13.75% of actual pay for All Other Employees, per Act 181/2004 SLH. Effective July 1, 2008, the employer contribution rate increased to 19.70% of actual pay for Police and Fire and 15.00% of actual pay for All Other Employees, per Act 256/2006 SLH.

Per Act 163/2011 SLH, the statutory employer contribution rate for Police and Fire employees will be 22.00% in FY 2013, 23.00% in FY 2014, 24.00% in FY 2015 and 25.00% in FY 2016 and thereafter, and the rate for All Other Employees will be 15.50% in FY 2013, 16.00% in FY 2014, 16.50% in FY 2015 and 17.00% in FY 2016 and thereafter.

Per Act 017/2017 SLH, the statutory employer contribution rates for Police and Fire employees will be 28% of pay in FY 2018, 31% in FY 2019, 36% in FY 2020, and 41% in FY 2021 and thereafter, and the rate for All Other Employees will be 18% of pay in FY 2018, 19% in FY 2019, 22% in FY 2020, and 24% in FY 2021 and thereafter.

* This chart does not include the effects of GASB Statement No 67 (implemented by the ERS only for FY 2014) that requires member contributions “picked up” as employer contributions pursuant to IRC section 414(h)(2) to be reported as Employer Contributions. ERS implemented GASB Statement No. 82 in FY 2015 that excludes these amounts from Employer Contributions.

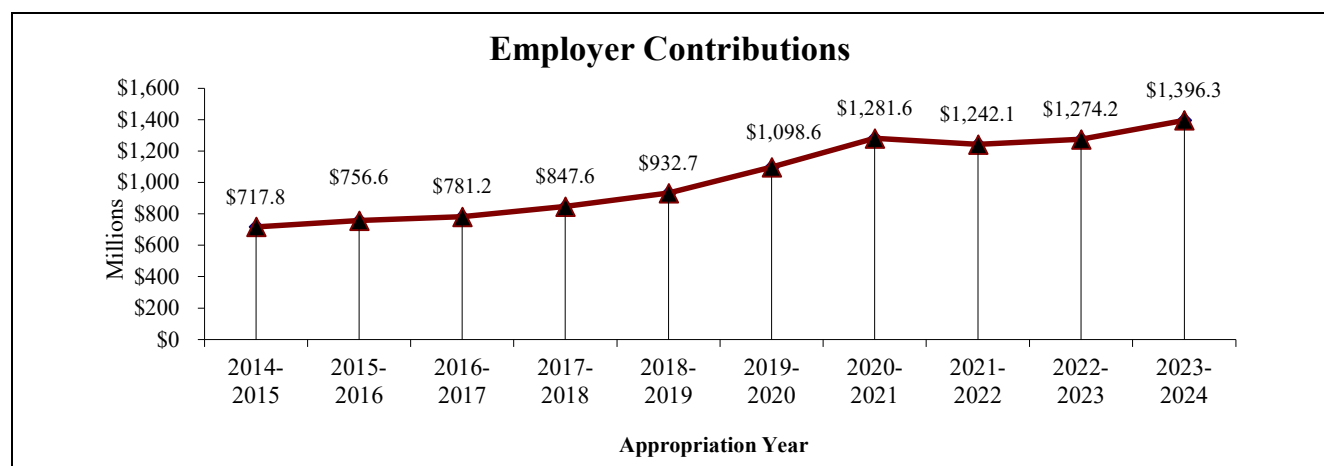
** Schedule compiled by ERS Staff from actuary reports.

*Ten-Year Actuarial Schedules (continued)***Employer Appropriations to Pension Accumulation Fund****

Fiscal Year Ending June 30,	Investment Yield Rate		
	Assumed for Actuarial Valuation ²	Actuarial Investment Return	Performance Returns Policy (Gross/Net) ³
2015	7.65%	7.85%	Gross-of-fees
2016	7.00%	5.59%	Gross-of-fees
2017	7.00%	6.92%	Gross-of-fees
2018	7.00%	7.18%	Gross-of-fees
2019	7.00%	6.81%	Gross-of-fees
2020	7.00%	5.59%	Gross-of-fees
2021	7.00%	10.75%	Gross-of-fees
2022	7.00%	8.36%	Gross-of-fees
2023	7.00%	6.86%	Gross-of-fees
2024	7.00%	7.23% ³	Net-of-fees ³

- Notes: (1) Beginning with the valuation for fiscal year 1996-97 (appropriation fiscal year 1999-2000), the actuarial investment income is the sum of the expected net investment income based on the actuarial assumption of 8% and a four-year smoothing of the difference between the market value of assets at year-end and the expected actuarial value of assets. In prior years, the actuarial investment income was the sum of interest, dividends, and net realized gains less net realized losses and investment expenses.
- (2) Effective July 1, 2008, the employer contribution rate increased to 19.70% of actual pay for Police and Fire and 15.00% of actual pay for All Other Employees, per Act 256/2006 SLH. Pursuant to Act 163/2012 SLH, the employer rates increased over a four-year phase in period. The employer contribution rates for Police and Fire employees increased according to the following schedule: 22.00% in FY 2013, 23.00% in FY 2014, and 24.00% in FY 2015, and 25.00% in FY 2016 and beyond. The employer contribution rates for All Other Employees increased according to the following schedule: 15.50% in FY 2013, 16.00% in FY 2014, and 16.50% in FY 2015, and 17.00% in FY 2016 and beyond.
- Pursuant to Act 017/2017 SLH, the employer rates increased over a four-year phase in period. The employer contribution rates for Police and Fire employees increased according to the following schedule: 25.00% in FY 2018, 31.00% in FY 2019, 36.00% in FY 2020, and 41.00% in FY 2021 and beyond. The employer contribution rates for All Other Employees increased according to the following schedule: 18.00% in FY 2018, 19.00% in FY 2019, 22.00% in FY 2020, and 24.00% in FY 2021 and beyond.
- (3) The ERS policy for rate of investment returns was gross-of-fees prior to July 1, 2023 (Fiscal Year 2023 and earlier). Effective July 1, 2023 (Fiscal Year 2024), the Board of Trustees Investment Policy for rate of investment returns is net-of-fees.

** Schedule compiled by ERS Staff from actuary reports.



*** This chart of Employer Contributions does not include Member contributions picked up as employer contributions per IRC section 414(h)(2) and Chapter 88, HRS (as required by GASB Statement No. 68 in FY 2014).

*Ten-Year Actuarial Schedules (continued)***AGGREGATED FUNDED RATIOS FOR STATES**

Funded Ratio	Aggregated Statewide Retirement Systems (all statewide systems for state employees, teachers, school employees, or municipal employees)			
100% or more	2	South Dakota	100.1%	Wisconsin 100.0%
90% to 99%	6	New York	99.6%	Washington 95.0%
		Nebraska	98.4%	Utah 93.1%
		Tennessee	97.3%	North Carolina 90.2%
80% to 89%	14	Iowa	89.1%	Oklahoma 82.5%
		Minnesota	88.5%	Florida 82.4%
		Delaware	88.2%	Arkansas 82.0%
		Oregon	86.4%	Virginia 81.4%
		Maine	85.3%	Missouri 81.1%
		West Virginia	84.8%	Ohio 80.7%
		Idaho	82.6%	Texas 80.0%
70% to 79%	11	Georgia	79.2%	Montana 73.6%
		California	79.1%	Kansas 71.6%
		Maryland	77.5%	Alaska 71.4%
		Wyoming	77.2%	Arizona 70.6%
		Nevada	74.7%	Indiana 70.3%
		Louisiana	73.9%	
60% to 69%	12	North Dakota	68.7%	Massachusetts 65.1%
		Colorado	68.6%	Vermont 64.7%
		New Mexico	66.7%	Rhode Island 64.4%
		Alabama	66.5%	Pennsylvania 64.3%
		Michigan	66.0%	Hawaii 61.9%
		New Hampshire	65.6%	Mississippi 61.3%
Less than 60%	5	South Carolina	57.9%	New Jersey 52.6%
		Connecticut	53.8%	Kentucky 48.4%
		Illinois	53.8%	

Source: Compiled from most recent Public Funds Survey by Gabriel, Roeder, Smith & Company

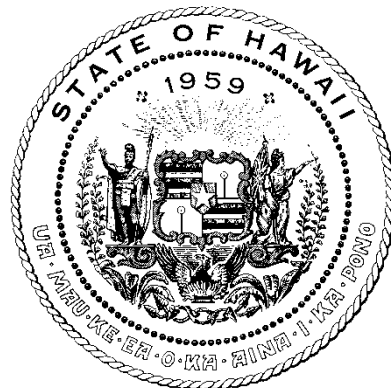
Note: Funded Ratios are shown for all 50 states. Multiple statewide retirement systems are aggregated together to produce the overall funded ratio for the state.

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Employees' Retirement System

of the State of Hawaii



**STATISTICAL
SECTION**

Summary

This section contains various statistical and historical data considered useful in evaluating the condition of the ERS. All non-accounting data is taken from ERS' internal sources except for that information which is derived from the actuarial valuations.

Changes in Fiduciary Net Position

Last Ten Fiscal Years

Fiscal Year Ended June 30,:	2015	2016	2017	2018	2019
Additions					
Employer contributions	\$ 717,792,981	\$ 756,558,222	\$ 781,244,218	\$ 847,595,466	\$ 922,635,334
Member contributions	223,505,419	236,801,861	250,704,067	259,427,934	273,223,578
Investment income (net of expense)	556,436,475	(169,368,110)	1,934,512,507	1,225,572,599	932,696,412
Total additions to plan net position	1,497,734,875	823,991,973	2,966,460,792	2,332,595,999	2,128,555,324
Deductions					
Benefits	1,170,744,770	1,232,589,353	1,306,788,954	1,395,881,342	1,469,634,809
Refunds	10,507,888	12,927,672	16,340,290	20,846,500	16,502,635
Administrative expenses	14,032,964	13,960,587	14,986,159	15,784,490	13,798,866
Total deductions from plan net position	1,195,285,622	1,259,477,612	1,338,115,403	1,432,512,332	1,499,936,310
Net increase (decrease) in net position	302,449,253	(435,485,639)	1,628,345,389	900,083,667	628,619,014
Net position restricted for pension benefits					
Beginning of year	14,203,015,303	14,505,464,556	14,069,978,917	15,698,324,306	16,598,407,973
End of year	\$ 14,505,464,556	\$ 14,069,978,917	\$ 15,698,324,306	\$ 16,598,407,973	\$ 17,227,026,987
Fiscal Year Ended June 30,:	2020	2021	2022	2023	2024
Additions					
Employer contributions	\$ 1,098,589,013	\$ 1,281,558,696	\$ 1,242,139,095	\$ 1,274,221,056	\$ 1,396,331,977
Member contributions	287,398,031	300,626,446	293,027,560	309,761,053	342,066,080
Investment income (net of expense)	358,282,664	4,662,225,761	164,559,035	826,902,875	1,461,900,137
Total additions to plan net position	1,744,269,708	6,244,410,903	1,699,725,690	2,410,884,984	3,200,298,194
Deductions					
Benefits	1,545,589,761	1,651,431,372	1,738,751,492	1,795,410,787	1,878,501,292
Refunds	22,443,593	23,618,435	24,454,256	26,353,782	28,548,843
Administrative expenses	17,782,865	19,049,861	17,497,621	18,549,472	18,000,678
Total deductions from plan net position	1,585,816,219	1,694,099,668	1,780,703,369	1,840,314,041	1,925,050,813
Net increase (decrease) in net position	158,453,489	4,550,311,235	(80,977,679)	570,570,943	1,275,247,381
Net position restricted for pension benefits					
Beginning of year	17,227,026,987	17,385,480,476	21,935,791,711	21,854,814,032	22,425,384,975
End of year	\$ 17,385,480,476	\$ 21,935,791,711	\$ 21,854,814,032	\$ 22,425,384,975	\$ 23,700,632,356

** For FYE June 30, 2014, ERS implemented GASB Statement No. 67 that requires Member Contributions "picked up" per Internal Revenue Code section 414(h)(2) as employer contributions to be classified for financial statement purposes as "Employer Contributions". This was subsequently changed effective with FYE June 30, 2015 with the implementation of GASB Statement No. 82.

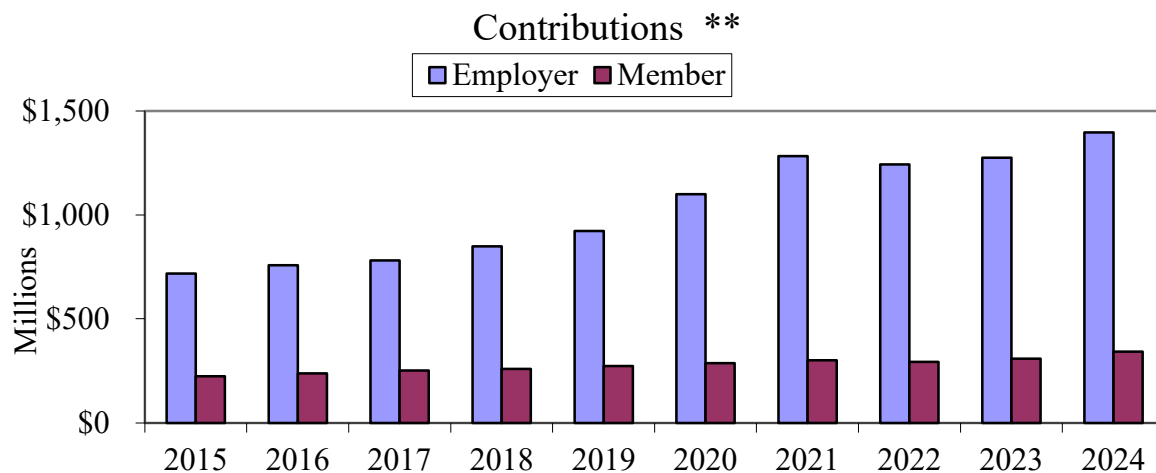
Contributions

Schedule of Employer Contributions ** (In thousands)

Fiscal year ended June 30,:	Statutory Contributions	Covered Employee Payroll	Contributions as a Percentage of Covered Payroll
2015	\$717,793	\$3,995,447	18.0%
2016	756,558	4,112,227	18.4%
2017	781,244	4,243,522	18.4%
2018	847,595	4,256,053	19.9%
2019	922,635	4,376,217	21.1%
2020	1,098,589	4,481,444	24.5%
2021	1,281,559	4,667,346	27.5%
2022	1,242,139	4,483,687	27.7%
2023	1,274,221	4,674,478	27.3%
2024	1,396,332	4,956,910	28.2%

Employer Contribution Rates as a Percentage of Payroll **

Fiscal Year	Police & Firefighters	All Other Employees	Composite Rate
2015	24.00%	16.50%	17.28%
2016	25.00%	17.00%	17.89%
2017	25.00%	17.00%	17.91%
2018	28.00%	18.00%	19.16%
2019	31.00%	19.00%	20.36%
2020	36.00%	22.00%	23.61%
2021	41.00%	24.00%	25.94%
2022	41.00%	24.00%	25.92%
2023	41.00%	24.00%	25.89%
2024	41.00%	24.00%	25.85%



** Member contributions picked up as employer contributions per IRC section 414(h)(2) and Chapter 88, HRS are included in the Member Contributions for this chart, in accordance with GASB Statement No. 82.

Deductions from Fiduciary Net Position for Benefit Payments by Type

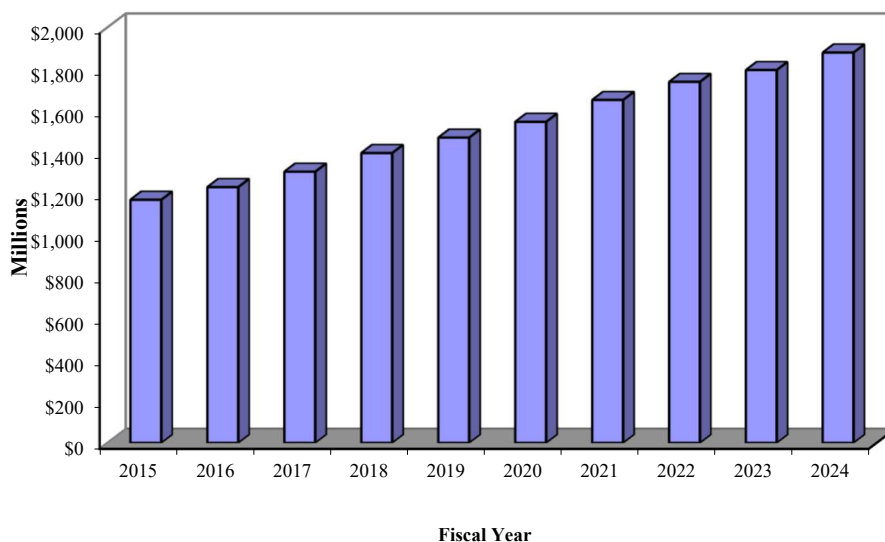
Last Ten Fiscal Years

Fiscal Year Ended June 30,:	2015	2016	2017	2018	2019
Recurring benefit payments					
Service	\$ 1,058,688,356	\$ 1,111,416,262	\$ 1,175,380,410	\$ 1,241,819,373	\$ 1,306,624,918
Disability	20,732,259	21,437,486	22,303,070	23,739,337	25,035,782
Death	59,238,051	65,568,232	71,889,117	77,507,539	83,117,245
subtotal	1,138,658,666	1,198,421,980	1,269,572,597	1,343,066,249	1,414,777,945
Refund Option payments (one-time)	32,086,104	34,167,373	37,216,357	52,815,093	54,856,864
Total benefit payments	<u>\$ 1,170,744,770</u>	<u>\$ 1,232,589,353</u>	<u>\$ 1,306,788,954</u>	<u>\$ 1,395,881,342</u>	<u>\$ 1,469,634,809</u>

Fiscal Year Ended June 30,:	2020	2021	2022	2023	2024
Recurring benefit payments					
Service	\$ 1,373,747,686	\$ 1,449,789,546	\$ 1,535,941,473	\$ 1,602,867,518	\$ 1,668,406,551
Disability	26,793,410	28,111,724	29,158,191	30,212,060	31,442,049
Death	90,145,618	97,946,864	104,348,318	112,256,021	118,389,233
subtotal	1,490,686,714	1,575,848,134	1,669,447,982	1,745,335,599	1,818,237,833
Refund Option payments (one-time)	54,903,047	75,583,238	69,303,510	50,075,188	60,263,459
Total benefit payments	<u>\$ 1,545,589,761</u>	<u>\$ 1,651,431,372</u>	<u>\$ 1,738,751,492</u>	<u>\$ 1,795,410,787</u>	<u>\$ 1,878,501,292</u>

** From FYE 6/30/2009, death benefits include payments to continuing beneficiaries.

Benefit Payments



Participating Employers and Membership in ERS

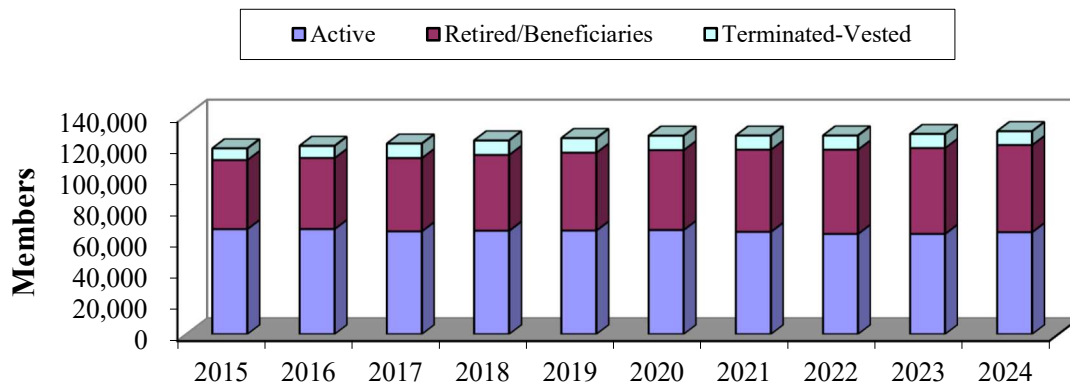
Last Ten Fiscal Years

ERS Membership

As of March 31,:	Active	Retired/ Beneficiaries	Terminated- Vested	Inactive- Non-Vested	Totals
2015	67,310	44,283	7,413	13,840	132,846
2016	67,377	45,506	7,741	14,554	135,178
2017	65,911	46,927	9,241	16,482	138,561
2018	66,271	48,569	9,249	17,819	141,908
2019	66,383	49,885	9,321	19,533	145,122
2020	66,750	51,153	9,204	20,985	148,092
2021	65,561	52,618	9,011	22,226	149,416
2022	64,234	53,990	9,031	24,872	152,127
2023	64,243	54,973	8,997	26,900	155,113
2024	65,337	55,820	8,847	28,556	158,560

** ERS implemented GASB Statement No. 67 effective FYE June 30, 2014.

ERS Membership



Participating Employers and Active Members

As of March 31,:	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
State of Hawaii	51,791	51,723	50,288	50,719	50,788	51,008	49,852	48,753	48,755	49,552
City & County of Honolulu	8,727	8,807	8,740	8,709	8,713	8,757	8,739	8,518	8,532	8,663
- Board of Water Supply	558	558	572	570	581	574	576	557	549	542
Hawaii County	2,550	2,596	2,561	2,553	2,579	2,649	2,647	2,650	2,656	2,737
Kauai County	1,234	1,244	1,246	1,247	1,248	1,276	1,260	1,269	1,255	1,290
Maui County	2,450	2,449	2,504	2,473	2,474	2,486	2,487	2,487	2,496	2,553
Total	67,310	67,377	65,911	66,271	66,383	66,750	65,561	64,234	64,243	65,337

Benefit Payments by Retirement Type and Option

As of March 31, 2024

Retired Contributory Members

Monthly Benefit	Number of Recipients	Type of Retirement *					Retirement Option						
		1	2	3	4	5	Max	Opt. 1	Opt. 2	Opt. 3	Opt. 4	Opt. 5	Other
\$ 1 - 500	676	482	9	4	1	180	145	120	121	46	120	124	-
500 - 1,000	1,134	804	40	9	7	274	121	61	96	50	468	338	1
1,000 - 1,500	1,244	906	24	42	13	259	151	65	126	50	531	321	1
1,500 - 2,000	1,462	1,130	17	34	6	275	154	50	117	56	715	370	1
2,000 - 2,500	1,405	1,132	10	27	8	228	123	45	131	48	660	398	4
2,500 - 3,000	1,573	1,368	3	19	6	177	139	43	98	46	693	554	3
3,000 - 3,500	1,791	1,593	5	22	11	160	165	42	108	53	850	573	8
3,500 - 4,000	1,732	1,570	1	9	6	146	171	42	112	46	923	438	4
4,000 - 4,500	1,395	1,276	-	13	3	103	163	37	84	60	828	223	-
4,500 - 5,000	1,115	1,036	-	9	-	70	160	34	87	49	639	146	-
5,000	4,639	4,419	-	6	12	202	579	105	517	295	2,753	390	2
	18,166	15,716	109	194	73	2,074	2,071	644	1,597	799	9,180	3,875	24

Retired Hybrid Members

Monthly Benefit	Number of Recipients	Type of Retirement *					Retirement Option						
		1	2	3	4	5	Max	Opt. 1	Opt. 2	Opt. 3	Opt. 4	Opt. 5	Other
\$ 1 - 500	703	608	4	1	20	70	278	77	155	93	44	56	-
500 - 1,000	2,540	2,241	71	17	67	144	901	188	553	296	298	304	-
1,000 - 1,500	2,680	2,311	126	69	39	135	955	141	626	302	368	288	-
1,500 - 2,000	2,135	1,891	82	52	19	91	713	140	520	243	301	218	-
2,000 - 2,500	1,653	1,499	47	19	23	65	528	95	441	232	236	120	1
2,500 - 3,000	1,523	1,438	34	7	12	32	514	85	361	238	213	110	2
3,000 - 3,500	1,378	1,315	21	5	9	28	485	70	316	215	199	93	-
3,500 - 4,000	1,277	1,232	7	1	12	25	446	63	305	215	166	82	-
4,000 - 4,500	950	932	1		3	14	370	52	199	165	108	56	-
4,500 - 5,000	683	673		1	1	8	263	34	150	126	79	31	-
5,000	1,641	1,604	5		9	23	576	91	404	333	164	73	-
	17,163	15,744	398	172	214	635	6,029	1,036	4,030	2,458	2,176	1,431	3

Retired Noncontributory Members

Monthly Benefit	Number of Recipients	Type of Retirement *					Retirement Option				
		1	2	3	4	5	Max	Opt. A	Opt. B	Opt. C	Other
\$ 1 - 500	2,197	1,456	76	36	108	521	820	583	604	90	100
500 - 1,000	4,530	3,480	271	46	97	636	2,078	929	1,246	201	76
1,000 - 1,500	3,359	2,724	153	83	40	359	1,513	703	942	176	25
1,500 - 2,000	2,516	2,136	107	34	21	218	1,108	513	774	117	4
2,000 - 2,500	1,985	1,775	37	11	8	154	887	430	559	109	-
2,500 - 3,000	1,930	1,795	21	5	8	101	967	387	446	129	1
3,000 - 3,500	1,569	1,493	5	1	10	60	894	302	291	82	-
3,500 - 4,000	974	933	4	1	4	32	551	193	197	33	-
4,000 - 4,500	565	543	3	1	4	14	314	125	101	25	-
4,500 - 5,000	336	318	1	-	1	16	180	74	70	12	-
5,000	530	507	-	-	4	19	287	119	106	18	-
	20,491	17,160	678	218	305	2,130	9,599	4,358	5,336	992	206

* Type of Retirement

- 1 – Normal retirement for age & service
- 2 – Ordinary disability retirement
- 3 – Occupational disability retirement
- 4 – Survivor payment – death in service
- 5 – Survivor payment – normal or disability retirement

Note: Refer to Plan Summary in the Introductory Section for descriptions of the types of retirements and benefit options selected by the members.

Average Monthly Service Pensions by Years of Credited Service

		<u>Years of Credited Service</u>							
	<u>As of March 31,</u>	<u>0-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30-34</u>	<u>35+</u>	<u>All</u>
2015	Average Monthly Benefit	\$485	\$650	\$1,081	\$1,487	\$2,623	\$3,141	\$3,619	\$2,269
	Number of Active Retirants	1,305	4,547	4,221	5,319	8,344	10,009	5,318	39,063
2016	Average Monthly Benefit	\$522	\$667	\$1,111	\$1,519	\$2,680	\$3,210	\$3,725	\$2,318
	Number of Active Retirants	1,383	4,676	4,379	5,483	8,467	10,195	5,474	40,057
2017	Average Monthly Benefit	\$553	\$687	\$1,150	\$1,563	\$2,753	\$3,278	\$3,824	\$2,375
	Number of Active Retirants	1,450	4,854	4,515	5,629	8,688	10,457	5,655	41,248
2018	Average Monthly Benefit	\$589	\$713	\$1,182	\$1,608	\$2,848	\$3,366	\$3,929	\$2,441
	Number of Active Retirants	1,534	5,076	4,699	5,772	8,938	10,765	5,878	42,662
2019	Average Monthly Benefit	\$615	\$739	\$1,208	\$1,644	\$2,940	\$3,446	\$4,034	\$2,504
	Number of Active Retirants	1,577	5,247	4,884	5,868	9,110	11,048	6,031	43,765
2020	Average Monthly Benefit	\$637	\$768	\$1,233	\$1,674	\$3,029	\$3,515	\$4,144	\$2,567
	Number of Active Retirants	1,614	5,407	5,014	5,922	9,266	11,339	6,194	44,756
2021	Average Monthly Benefit	\$658	\$795	\$1,278	\$1,718	\$3,126	\$3,604	\$4,260	\$2,641
	Number of Active Retirants	1,625	5,581	5,214	6,033	9,411	11,725	6,386	45,975
2022	Average Monthly Benefit	\$691	\$826	\$1,326	\$1,762	\$3,235	\$3,691	\$4,387	\$2,722
	Number of Active Retirants	1,634	5,725	5,386	6,158	9,582	12,133	6,549	47,167
2023	Average Monthly Benefit	\$706	\$855	\$1,372	\$1,813	\$3,338	\$3,772	\$4,478	\$2,792
	Number of Active Retirants	1,619	5,837	5,557	6,221	9,620	12,407	6,677	47,938
2024	Average Monthly Benefit	\$725	\$882	\$1,418	\$1,858	\$3,443	\$3,852	\$4,572	\$2,863
	Number of Active Retirants	1,601	5,968	5,648	6,282	9,701	12,608	6,812	48,620

Retirees and Beneficiaries

(Recurring Benefit Payments)

Tabulated by Fiscal Year that Payments Started as of March 31, 2024

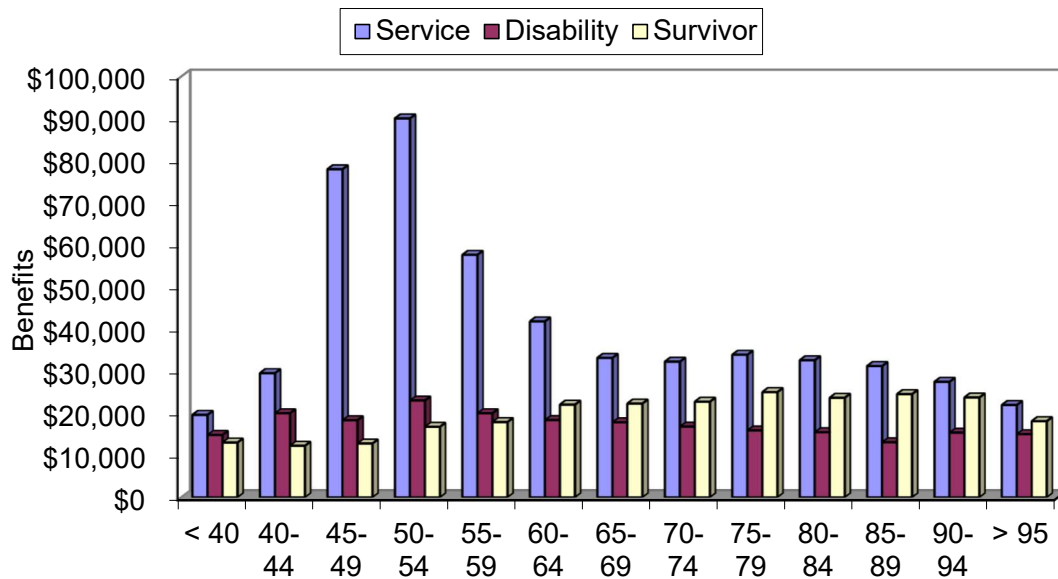
Valuation Year	Number	Total Annual Benefits	Monthly Average Benefit	Valuation Year	Number	Total Annual Benefits	Monthly Average Benefit
1959	1	\$ 4,737	\$395	1995	1,131	\$ 42,839,885	\$3,156
1962	1	6,308	\$526	1996	1,205	44,337,629	\$3,066
1967	2	25,695	\$1,071	1997	422	11,564,718	\$2,284
1968	1	15,880	\$1,323	1998	443	12,817,424	\$2,411
1969	1	7,386	\$616	1999	709	22,174,728	\$2,606
1970	1	5,824	\$485	2000	909	29,839,745	\$2,736
1971	1	9,528	\$794	2001	1,096	35,989,257	\$2,736
1972	2	14,630	\$610	2002	941	31,112,663	\$2,755
1973	2	8,910	\$371	2003	1,264	45,249,420	\$2,983
1974	1	4,896	\$408	2004	1,259	42,553,047	\$2,817
1975	3	23,879	\$663	2005	1,356	47,117,239	\$2,896
1976	3	26,559	\$738	2006	1,362	44,096,565	\$2,698
1977	10	119,195	\$993	2007	1,458	46,949,136	\$2,683
1978	17	240,506	\$1,179	2008	1,461	45,368,031	\$2,588
1979	21	322,331	\$1,279	2009	1,401	43,648,202	\$2,596
1980	34	591,595	\$1,450	2010	2,056	76,369,272	\$3,095
1981	48	781,959	\$1,358	2011	1,897	71,349,055	\$3,134
1982	63	1,134,993	\$1,501	2012	1,869	61,667,046	\$2,750
1983	68	1,461,261	\$1,791	2013	1,866	58,457,494	\$2,611
1984	95	2,059,410	\$1,807	2014	1,966	60,049,514	\$2,545
1985	149	3,495,527	\$1,955	2015	2,215	65,470,210	\$2,463
1986	186	4,708,082	\$2,109	2016	2,286	67,711,679	\$2,468
1987	331	8,664,880	\$2,181	2017	2,458	79,087,435	\$2,681
1988	221	4,719,143	\$1,779	2018	2,776	93,839,302	\$2,817
1989	288	7,218,882	\$2,089	2019	2,571	83,904,319	\$2,720
1990	355	9,838,564	\$2,310	2020	2,628	87,585,905	\$2,777
1991	435	11,969,556	\$2,293	2021	2,865	99,227,097	\$2,886
1992	445	14,054,586	\$2,632	2022	2,915	99,856,474	\$2,855
1993	492	16,863,594	\$2,856	2023	2,705	87,009,239	\$2,681
1994	528	16,888,653	\$2,666	2024	2,525	79,933,321	\$2,638
Total					55,820	\$ 1,822,462,000	\$2,721

Total Benefits Payable (Recurring Benefit Payments)

Tabulated by Attained Ages of Benefit Recipients as of March 31, 2024

Attained Ages	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20	-	-	-	-	28	286,429	28	286,429
20-24	-	-	-	-	19	250,163	19	250,163
25-29	-	-	-	-	25	261,360	25	261,360
30-34	-	-	1	18,502	65	902,959	66	921,461
35-39	1	19,584	3	40,736	84	1,175,663	88	1,235,983
40-44	2	58,979	12	239,562	123	1,505,937	137	1,804,478
45-49	36	2,806,257	24	439,214	151	1,930,077	211	5,175,548
50-54	299	26,923,240	104	2,390,036	207	3,466,947	610	32,780,223
55-59	1,659	95,547,842	186	3,713,872	299	5,343,269	2,144	104,604,983
60-64	4,268	178,323,963	353	6,478,258	403	8,867,307	5,024	193,669,528
65-69	8,706	288,259,267	377	6,714,144	622	13,850,934	9,705	308,824,345
70-74	10,847	349,439,322	321	5,393,091	808	18,343,873	11,976	373,176,286
75-79	10,054	340,406,502	213	3,383,685	910	22,732,071	11,177	366,522,258
80-84	6,241	203,179,177	112	1,731,060	702	16,595,593	7,055	221,505,830
85-89	3,642	113,511,468	28	366,109	495	12,133,240	4,165	126,010,817
90-94	2,065	56,623,163	25	383,855	335	7,941,079	2,425	64,948,097
95-99	695	15,594,914	8	134,022	137	2,448,533	840	18,177,469
100 & over	105	1,937,040	2	15,903	18	353,799	125	2,306,742
Total	48,620	\$ 1,672,630,718	1,769	\$ 31,442,049	5,431	\$ 118,389,233	55,820	\$ 1,822,462,000

Average Benefits



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