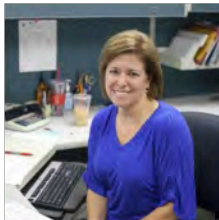
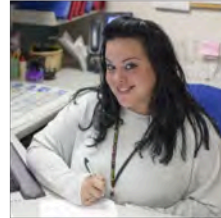


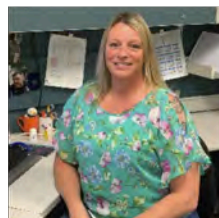
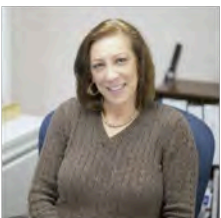
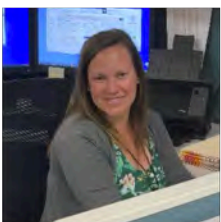
NHRS

New Hampshire Retirement System
A Fiduciary Component Unit Of The State Of New Hampshire

Comprehensive Annual Financial Report
For the Fiscal Year Ended
June 30, 2020



**HERE TODAY
FOR YOUR
TOMORROW**



**Our Mission: To provide secure
retirement benefits and superior service**



COMPREHENSIVE ANNUAL FINANCIAL REPORT FOR THE FISCAL YEAR ENDED JUNE 30, 2020

A Fiduciary Component Unit of the State of New Hampshire

Prepared by
New Hampshire Retirement System
54 Regional Drive
Concord, New Hampshire 03301-8507
www.nhrs.org

[CLICK HERE TO RETURN TO INDEX](#)

Cover Design and Layout: Christine Basha, NHRS Public Information Office
Board and Staff Photos: Bogacz Photography/Digital Media, Concord, NH 603.228.1229
Design and Layout: Debbie K Graphics, Hillsborough, NH 603.344.9812

NEW HAMPSHIRE RETIREMENT SYSTEM

INTRODUCTORY SECTION

[CLICK HERE TO RETURN TO INDEX](#)

TABLE OF CONTENTS

INTRODUCTORY SECTION

Letter From the Chair	6
Board of Trustees	8
Independent Investment Committee	9
Certificate of Achievement	10
Administrative Organization	11
Professional Managers, Advisors and Service Providers	12
Letter of Transmittal	13

FINANCIAL SECTION

Independent Auditors' Report	18
Management's Discussion and Analysis — Required Supplementary Information (Unaudited)	21
Basic Financial Statements:	
Combining Statements of Fiduciary Net Position — Pension and Other Postemployment Medical Plan (OPEB)	26
Combining Statements of Changes in Fiduciary Net Position — Pension and Other Postemployment Medical Plan (OPEB)	27
Notes to the Financial Statements	28
Required Supplementary Information (Unaudited):	
Schedule of Changes in the Employers' Net Pension Liability and Related Ratios	50
Schedule of Employer Contributions — Pension Plan	51
Schedule of Changes in the Employers' Net OPEB Liability and Related Ratios	52
Schedule of Employer Contributions — OPEB Plan	52
Schedule of Investment Returns	53
Notes to Required Supplementary Information — Last Ten Fiscal Years	53
Supporting Schedules:	
Investment Activity Fees and Other Investment Related Expenses	55
Interest Income	55
Dividend Income	55
Contributions	56
Benefits	56
Refunds of Contributions	56
Administrative Expenses	57
Professional Fees	57

INVESTMENT SECTION

Investment Consultant's Letter	60
Investment Reports:	
Annualized Investment Returns—Actual Versus Indices	62
Ten Year History of Time-Weighted Total NHRS Fund Annual Returns	62
Actual Asset Allocation Versus Target Asset Allocation	63
Ten Largest Stock Holdings by Fair Value	64
Ten Largest Fixed Income Holdings by Fair Value	64
Schedule of Investment Management and Service Fees	65
Schedule of Brokerage Commissions Paid	65
Net Position Restricted for Pension and OPEB Benefits	66
Summary of Investments	66
Real Estate Investments by Type and by Location	67
Alternative Investments	68
Net Appreciation (Depreciation) in Fair Value of Investments	68
Alternative Investment Income (Loss)	69
Real Estate Investments—Income and Expenses	69

ACTUARIAL SECTION

Actuarial Certification	72
Summary of Actuarial Assumptions and Methods	75
Historical Membership Data—Active and Retired	83
Solvency Test	87
Analysis of Past Financial Experience	89
Schedule of Funding Progress — Pension Plan	91
Schedule of Funding Progress — OPEB Plan	91
Membership Composition	92
Summary of Principal Plan Provisions as Interpreted for Valuation Purposes	93

STATISTICAL SECTION

Statistical Section Summary	100
Schedule of Changes in Net Position	102
Schedule of Benefit and Refund Deductions by Type	104
Schedule of Retired and Vested Members by Type of Benefit	106
Schedules of Average Benefit Payment Amounts	110
Principal Participating Employers	120
Listing of Participating Employers	121

LETTER FROM THE CHAIR



New Hampshire Retirement System
54 Regional Drive, Concord, NH 03301
Phone: (603) 410-3500 - Fax: (603) 410-3501
Website: www.nhrs.org - Email: info@nhrs.org



*Timothy S. Lesko
Chair
Board of Trustees*

November 30, 2020

To the Members and Beneficiaries of the New Hampshire Retirement System:

On behalf of the Board of Trustees of the New Hampshire Retirement System (NHRS, the retirement system), I am pleased to present NHRS' Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2020. This report describes the financial condition of both the Pension Plan and the Other Post Employment Benefit (OPEB) Plan. The report also describes various changes that occurred during Fiscal Year 2020.

In June, the Board voted to adopt revised actuarial assumptions based on the results of a four-year experience study conducted by its consulting actuary. In an accompanying vote, the Board voted to reduce the retirement system's investment assumption, lowering the assumed rate of return from 7.25 % to 6.75%. In reviewing the assumed rate of return over a period of months, NHRS Trustees heard capital market presentations from several independent, expert sources, including NEPC, the retirement system's investment consultant. The 6.75% rate represents what NHRS Trustees believe the plan can realistically earn from its investments on an annual basis, when averaged over the long-term. These necessary revisions to the actuarial assumptions will result in increased employer contribution rates beginning July 1, 2021. Extensive information on the experience study and employer contribution rates is available on the NHRS website.

While the Board recognizes the financial impact these rate increases will have on state and local governments, it has a fiduciary responsibility to ensure that the interests of members and beneficiaries are properly safeguarded. This responsibility is embodied in the law and in the New Hampshire Constitution (Part I, Article 36-a), which protects trust fund assets for the exclusive purpose of providing benefits, requires Trustees to set actuarially sound employer contribution rates, and requires employers to annually pay those rates in full.

At the close of the fiscal year, the retirement system's net position held in trust was \$9.134 billion, a decrease of approximately \$74 million over the prior fiscal year.

At June 30, 2020, the funded ratio of the Pension Plan stood at 61.0% and the OPEB Plan at 5.8%, versus 60.8% and 5.3% in the previous year, respectively. Funding status is measured by comparing the actuarial value of assets to the cost of accrued benefits owed now and in the future. The OPEB plan provides a post-employment medical subsidy benefit to qualified Group I and Group II members. Because the OPEB plan is closed to new members and, as required by statute, is essentially funded on a pay-as-you-go basis, it does not, for the most part, have substantial assets set aside for future funding. The funded ratios of the Pension and OPEB plans reported in the 2019 CAFR were 64.8% and 5.6%, respectively. These funded ratios were revised to 60.8% and 5.3%, respectively, after an actuarial experience study was completed, which resulted in new actuarial assumptions being adopted by the NHRS Board in June 2020. For year-over-year consistency, the funded ratios for the Pension and OPEB plans reported in the 2019 CAFR are used elsewhere throughout this report.

NHRS pursues a long-term investment strategy designed to meet its funding requirements. The Board sets the assumed rate of investment return; approves an investment policy, including asset allocation; and selects an investment consultant to advise the Independent Investment Committee (IIC). The IIC works closely with the consultant and staff to review and change, as appropriate, strategies, external asset managers, and selection of specific investments.

NHRS has a diversified investment portfolio which, in any given year, can diverge from market indices. The long-term goal of this approach is to reduce risk and mitigate volatility.

NHRS realized a 1.1% return on investments in the fiscal year ended June 30, 2020, below the retirement system's assumed rate of investment return of 6.75%. It is important to note that these investment returns are for a single year, and need to be considered within the context of the portfolio's performance over time as compared to the assumed rate of

return. The three-year, five-year, 10-year, 20-year, and 25-year returns for the periods ended June 30, 2020, were 5.2%, 5.9%, 8.7%, 5.4%, and 7.5%, respectively. All returns are net of fees.

NHRS' investment and administrative expenses remain below the average expenses reported in the most recent survey of public pension plans compiled by the National Conference on Public Employee Retirement Plans.

In addition to the information on investments contained in this report, more detailed information on NHRS-specific investment activities and the current economic and market climate is provided in the Comprehensive Annual Investment Report ("CAIR") for Fiscal Year 2020, issued separately by the IIC.

Through a number of recent and ongoing initiatives, NHRS has continued to strengthen its operations, efficiency, and stakeholder outreach. Over the past year, these efforts include expanded member outreach and education efforts and continuing cyber-security enhancements and training to assure the protection of our records and data. We are 18 months into a multi-year upgrade of our 17-year-old pension administration system, which will create operational efficiencies and provide additional security features. We have also created an internal Contact Center to handle all incoming telephone calls, emails faxes, and in-person interactions, with the objective of improving the service we provide to our members, retirees, beneficiaries, employers, and other stakeholders.

These activities occurred despite the global COVID-19 pandemic. While the long-term public health and economic implications of COVID-19 are uncertain, I am pleased to report that early emergency planning positioned the retirement system to remain operational as state and federal governments ordered social distancing measures and large-scale closures last spring. Pension benefits were — and will continue to be — paid on-time and as usual.

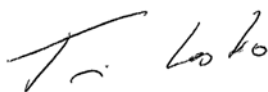
In May, I was chosen by Governor Sununu to replace longtime Chair Dr. Richard Gustafson, who did not seek reappointment. Having served as a public member of the Board since January 2018, I saw firsthand Dr. Gustafson's professionalism, integrity, and commitment to fiduciary duty.

This year, the Board welcomed two new Trustees: Public member Scott Christensen, who replaced Trustee Gustafson, and Commissioner of the Treasury Monica Mezzapelle, who replaced former State Treasurer Bill Dwyer. In addition, Fire member George Walker stepped down in August upon his retirement from Nashua Fire Rescue. We thank all of our outgoing Trustees for their service and dedication.

The Board would also like to recognize former state Senator Harold W. Janeway for his service and commitment to NHRS. Sen. Janeway, who passed away in August 2020, played an integral role in establishing the Independent Investment Committee, on which he served as Chair since its inception in January 2009 through February 2017. Sen. Janeway also served as a Trustee from 2007-10. He will be greatly missed.

Our mission is straightforward, "To provide secure retirement benefits and superior service." The Board and staff are committed to continuously improving internal operational processes and controls, delivering timely and professional service, and implementing legislative changes in support of the sustainability and stability of NHRS and for the benefit of all of the retirement system's members and beneficiaries.

Sincerely,



Timothy S. Lesko
Chair, Board of Trustees

**BOARD OF
TRUSTEES**

BOARD OF TRUSTEES



Timothy S. Lesko
Chair, Public Member
January 2018 to November 2022



Scott Christensen
Public Member
March 2020 to August 2022



Maureen Kelliher
Public Member
June 2014 to July 2022



Robert E. Maloney
Public Member
July 2018 to July 2021



Donald M. Roy, Jr.
Employer Member
July 2011 to July 2022



Benjamin Jean
Employer Member
July 2019 to July 2022



Scott M. Myers
Employer Member
January 2018 to September 2022



Melvin A. Frieze
Employee Member
July 2018 to July 2021



Sue Hannan
Teacher Member
July 2018 to July 2021



Vacant
Firefighter Member



William Hart
Police Officer Member
August 2016 to July 2018



Monica Mezzapelli
State Treasurer
March 2022 ex officio



Christopher C. Coates
Employer Member
September 2018 to July 2019

**INDEPENDENT
INVESTMENT
COMMITTEE**

INDEPENDENT MEMBERS



Keith Quinton
April 2017–Present



Christine Clinton
January 2018–Present



Daniel LaPlante
August 2018–Present

TRUSTEE MEMBERS



Maureen Kelliher, Chair
June 2014–Present



Timothy S. Lesko
January 2018–Present

ACTIVE NHRS MEMBER



Michael McMahon
February 2020–Present

**CERTIFICATE OF
ACHIEVEMENT**



Government Finance Officers Association

**Certificate of
Achievement
for Excellence
in Financial
Reporting**

Presented to

New Hampshire Retirement System

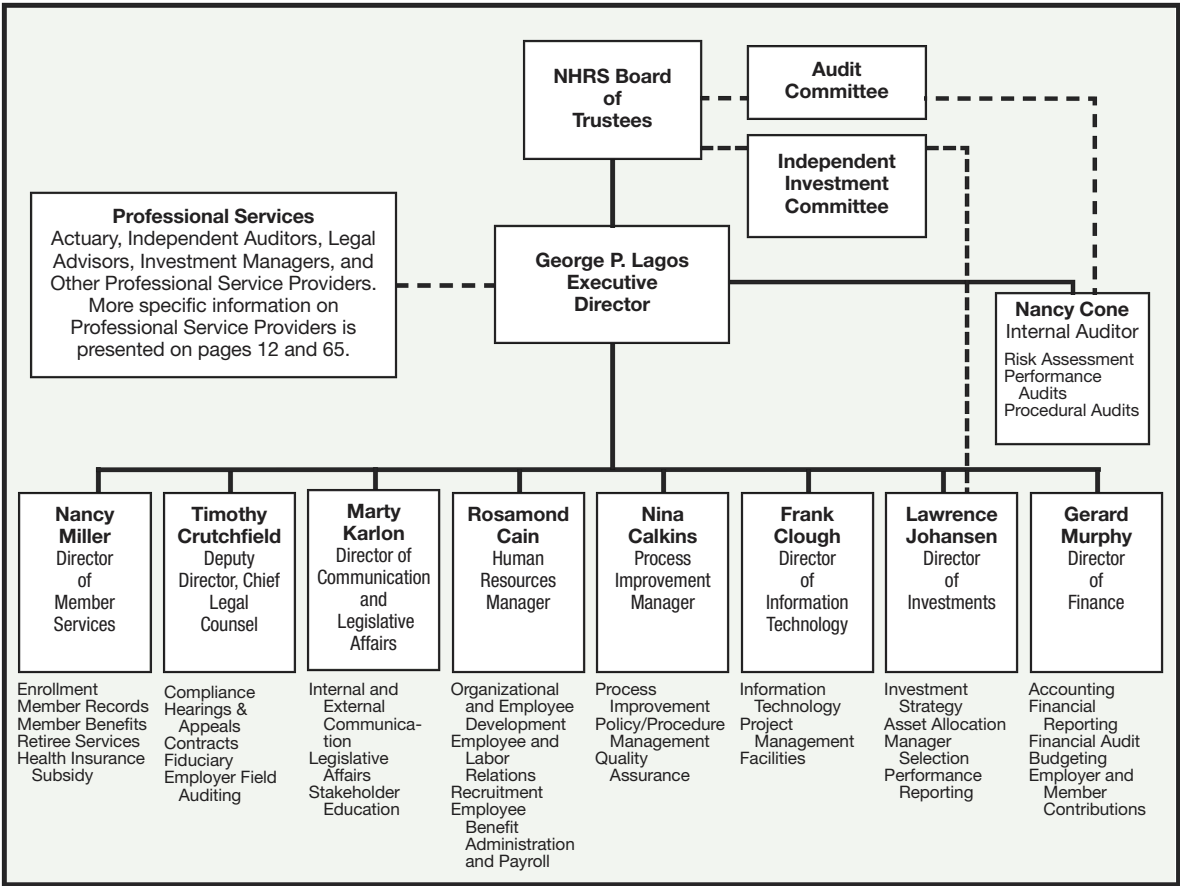
For its Comprehensive Annual
Financial Report
For the Fiscal Year Ended

June 30, 2019

Christopher P. Morill

Executive Director/CEO

ADMINISTRATIVE ORGANIZATION



NHRS MANAGEMENT TEAM



Seated left to right: Melissa Pettingill, Larry Johansen, George P. Lagos, Nancy Cone Standing left to right: Tracy Knight, Nina Calkins, Timothy Crutchfield, Gerard Murphy, Margaret Astles, Marty Karlon, Cecile Merrill, Frank Clough, Rosamond Cain, Nancy Miller, Tamre McCrea, Heather Fritzky, Deb Tasker, Mark Cavanaugh. Absent when photo was taken: Tracey Horner.

PROFESSIONAL MANAGERS, ADVISORS AND SERVICE PROVIDERS

DOMESTIC EQUITY MANAGERS

AB
Blackrock Institutional Trust
Company, N.A.
Boston Trust Walden
LSV Asset Management
Segall, Bryant and Hamill
Thompson, Siegel & Walmsley LLC
Wellington Management Company,
LLP

NON-U.S. EQUITY MANAGERS

Artisan Partners
Causeway Capital Management
Fisher Investments
LSV Asset Management
Neuberger Berman
Segall, Bryant and Hamill
Walter Scott & Partners Limited
Wellington Trust Company, N.A.

FIXED INCOME MANAGERS

Blackrock Institutional Trust
Company, N.A.
Brandywine Global Investment
Management, LLC
Fidelity Institutional Asset
Management Trust Company
Income Research &
Management
Loomis Sayles &
Company, L.P.
Manulife Asset Management

PRIVATE DEBT & EQUITY MANAGERS

Actis
Alcentra
Apollo Global Management
Arcmont Asset Management
Avenue Capital Group
BlackRock Private Equity Partners
Carlyle Group
CarVal Investors
CCMP Capital
Comvest Partners
Coller Capital
Crescent Capital Group
Edgewater Growth Capital Partners
Gramercy
HarbourVest Partners
Industry Ventures
Ironwood Capital
Kayne Anderson Capital Advisors
Lexington Capital Partners
MatlinPatterson Global Advisers
Monroe Capital
NGP Energy Capital Management
Pine Brook Capital Partners
Riverstone Holdings
RFE Investment Partners
Siguler Guff & Co.
SL Capital Partners
Tennenbaum Capital Partners
Thoma Bravo
Top Tier Capital Partners
Warburg Pincus

REAL ESTATE MANAGERS

The Townsend Group
an Aon company

TRANSITION MANAGERS

Abel/Noser, LLC
BlackRock Institutional Trust
Company, N.A.
Pavillion Global Markets
Russell Implementation Services
State Street Bank and Trust
Company

INDEPENDENT AUDITORS

Plante Moran

INVESTMENT ADVISOR

NEPC, LLC

ACTUARIAL CONSULTANT

Gabriel, Roeder, Smith & Company

LEGAL ADVISORS

Foster Garvey PC
Getman, Stacey, Schulthess &
Steere, P.A.
Groom Law Group
Peter T. Foley, Esquire
Sulloway & Hollis PLLC
McLane Middleton, P.A.

CUSTODIANS

Citizens Bank-NH
(In-state Custodian)
BNY Mellon
(Master Custodian)

CORPORATE GOVERNANCE SERVICES

Institutional Shareholder Services,
Inc.

TRADING COST ADVISOR

Abel/Noser, LLC

LETTER OF
TRANSMITTAL

New Hampshire Retirement System
54 Regional Drive, Concord, NH 03301
Phone: (603) 410-3500 - Fax: (603) 410-3501
Website: www.nhrs.org - Email: info@nhrs.org



George P. Lagos
Executive Director

November 30, 2020

Dear Chair and Members of the Board of Trustees:

We are pleased to submit the Comprehensive Annual Financial Report (CAFR) of the New Hampshire Retirement System (NHRS) for the fiscal year ended June 30, 2020. This comprehensive report is designed to comply with the provisions of the Revised Statutes Annotated (RSA) 100-A:15, VI of the State of New Hampshire.

The management at NHRS is responsible for the complete and fair presentation of financial information and the accompanying disclosures in this report. This report fairly presents the combined assessment of the investment results and the financial condition of the Pension Plan and the Other Postemployment Benefit Plan (OPEB).

The Pension Plan was established in 1967 to consolidate and replace four separate pension plan systems: the New Hampshire Teachers' Retirement System, the New Hampshire State Employees Retirement System, the New Hampshire Policemen's Retirement System, and the New Hampshire Permanent Firemen's Retirement System. The Pension Plan provides

service retirement, disability retirement, early and vested retirement, and survivor benefits for all full-time state employees, public school teachers and administrators, permanent police officers, and permanent firefighters. Full-time employees of political subdivisions (such as county, municipal or school district employees) are also eligible to become members if the local governing body elects participation. At the close of the fiscal year, there were 48,479 active members and 39,612 retirees or beneficiaries.

The Pension Plan is a qualified governmental plan within the meaning of section 414(d) of the United States Internal Revenue Code and has a separately appointed governing body. Based on financial reporting guidelines, the Pension Plan is deemed to be a single pension plan. In addition, NHRS administers an OPEB Plan which provides medical benefits for qualified Group I and Group II members.

BUDGET CONTROLS AND NHRS ADMINISTRATION

The administrative budget for fiscal year 2020 was proposed by management, approved by the Board of Trustees, submitted under the budget preparation guidelines of the State of New Hampshire, and passed into law by the New Hampshire Legislature. For financial reporting purposes, NHRS is considered a fiduciary component unit of the State of New Hampshire.

NHRS is administered by a 13-member Board of Trustees, which includes the State Treasurer as an ex officio member, one employee member, one teacher member, one firefighter member, one police officer member, four public nonmembers, and four employer representatives. The Board of Trustees sets the investment policy, formulates administrative policies, and authorizes benefit payments to members and their beneficiaries. The NHRS Independent Investment Committee is responsible for investing in accordance with policies established by the Board; selecting investment managers, agents, and custodial banks; reviewing performance; and making recommendations to the Board regarding investment consultants, asset allocation, and other investment policy matters. Administrative functions are directed by the Executive Director and are carried out by the administrative staff.

ACCOUNTING SYSTEM AND INTERNAL CONTROL

The CAFR has been prepared in conformity with U.S. generally accepted accounting principles (GAAP). The financial statements are prepared on the accrual basis of accounting. Contributions are recognized as revenue in the period when they become due pursuant to statutory requirements. Investment income is recognized as it is earned. Benefits, refunds, and investment expenses are recognized when they become due and payable. Net appreciation (depreciation) in the fair value of investments is recorded as an increase (decrease) to investment income based on the valuation of investments as of the date of the financial statements. Trade commissions and related transaction costs are netted against the fair value of investments. Capital assets are recognized in the financial statements in accordance with NHRS's established capital asset policy.

The management at NHRS is responsible for maintaining a system of internal controls which is designed to provide reasonable assurance that the assets are adequately safeguarded and the financial reports and financial statements are fairly stated. There is not an expectation from management that the internal controls will prevent or detect all errors and fraud.

A control system, no matter how well designed and operated, can provide reasonable, not absolute, assurance that the objectives of the control system are met. The concept of reasonable assurance recognizes that: (1) The cost of a control should not exceed the benefits likely to be derived; and (2) The evaluation of costs and benefits requires estimates and judgments by management. Management believes its internal control structure meets these objectives.

FINANCIAL PERFORMANCE

For the fiscal year ended June 30, 2020, plan net position decreased \$73.5 million to \$9,134.1 billion compared to a \$333.4 million net position increase for the prior year. Like all investors, NHRS has dealt with a volatile and challenging investment landscape in recent years that has been exacerbated this year by the COVID-19 pandemic. A detailed discussion of investment performance, the sources of additions and deductions, and results of operations is covered in Management's Discussion and Analysis beginning on page 21.

FUNDING STATUS

In order to ensure that current and future retirement benefits are safeguarded and available to members at retirement, NHRS evaluates the actuarial value of the Plans' assets compared to the actuarial value of the Plans' liabilities as an indication of the extent to which the Plans are funded each year. This measure is called the plan funded ratio. Significant legislation was enacted in the 2008 and 2011 legislative sessions aimed at improving the funded ratios of the Plans.

The Pension Plan funded ratio at June 30, 2020, based on the June 30, 2020 financial schedules prepared by our actuary was 61.0%. The comparable funded ratio at June 30, 2019, based on the June 30, 2019 financial schedules prepared by our actuary was 64.8%. The funded ratio of the OPEB Plan at June 30, 2020, based on the June 30, 2020 financial schedules prepared by our actuary, was 5.8%. The comparable funded ratio at June 30, 2019, based on the June 30, 2019 financial schedules prepared by our actuary was 5.6%. The ratio of Plan net position to the Plan liability under GAAP is separately determined for both the Pension and OPEB plan and is discussed in the financial statements. A comprehensive analysis of funding progress for the Plans is provided in the Required Supplementary Information beginning on page 48.

NHRS adopted an actuarial funding policy in FY 2014 which defines the actuarial method and assumptions used to determine the employer contribution rates necessary to fund the plan. The policy was amended in September of 2018 to reflect statutory adoption of layered amortization for future asset gains or losses. For more details on NHRS' actuarial funding policy, go to www.nhrs.org/about-nhrs/policies.

NET PENSION LIABILITY

The total pension liability is the accrued liability for benefits owed now and in the future based on the Entry Age Normal actuarial funding method. The fiduciary net position is the fair value of plan net assets. The net pension liability is the total pension liability, less the amount of the Pension Plan's fiduciary net position. These disclosures are accounting measurements, not actuarial measurements of the funded status of the plan, and are not used to develop employer contribution rates.

INVESTMENTS

RSA 100-A:15 grants the New Hampshire Retirement System Board of Trustees the authority to adopt the investment policy for NHRS. Effective January 1, 2009, an Independent Investment Committee (IIC) was established by statute granting it authority to invest and reinvest NHRS funds in accordance with the investment policy adopted by the Board of Trustees. Prior to January 1, 2009, the Board of Trustees had the authority to invest and reinvest NHRS funds.

The IIC consists of not more than five voting members, three of whom are not members of the Board of Trustees and up to two of whom are members of the Board of Trustees appointed by the chairperson of the Board of Trustees. The Trustees and IIC members are fiduciaries and discharge their duties solely in the interest of the Plans' participants and beneficiaries. In the management of the Plans' assets, the Board of Trustees and the IIC members must exercise the care, skill, and caution under the circumstances then prevailing that a prudent person acting in a like capacity would use in the conduct of an activity of like character and purpose.

The annualized total fund investment returns for the one-year, three-year, five-year, ten-year, and twenty-year periods ended June 30, 2020, were 1.1%, 5.2%, 5.9%, 8.7%, and 5.4%, respectively. A discussion about comparative annualized returns and related benchmark indices for fiscal years 2020 and 2019 is presented in the Management's Discussion and Analysis beginning on page 21.

For the eleven years ending June 30, 2020, a period during which the IIC made the investment decisions, total fund performance was primarily in the first or second quartile.

The outperformance of 6090 basis points relative to the median of the InvestorForce Public Defined Benefit Net Universe for the eleven years ending June 30, 2020 represents approximately \$275 million in additional investment income for the pension trust.

MAJOR INITIATIVES

NHRS faces many issues common to other public employee retirement plans. As part of its proactive response to these challenges, the retirement system strives to create a culture of constant improvement. Some of the significant accomplishments during fiscal year 2020 were:

- Maintained normal business operations despite shifting most staff to remote work due to the COVID-19 pandemic. With very limited prior experience in supporting remote work, over a two-week period in March, NHRS mobilized its workforce, enabling virtually all staff members to work at home without any interruption to the monthly payroll pension cycle and other operations.
- Improved the funding of the pension trust by adjusting demographic and economic assumptions based on the results of a four-year actuarial experience study.
- Continued design and testing related to a multi-year upgrade to core pension administration system, which remains on time and on budget.
- Improved service levels by developing and implementing a Contact Center to respond to all forms of member and retiree contact.
- Completed rebalance of the non-U.S. equity portfolio.
- Implemented secure online payment capability, enabling participating employers to make contribution payments via ACH at no cost to them.
- Developed comprehensive contract administration process.
- Completed website update project, which enhanced member, retiree and employer home pages to display “need to know” information more prominently, improved ADA compliance, and made other functional improvements.
- Completed and/or updated training manuals for all staff positions.
- Issued the June 30, 2019, GASB 68 and 75 report with unmodified (clean) opinions.

INDEPENDENT AUDIT

RSA 100-A:15 VI. (a) requires the Audit Committee of the Board of Trustees to engage the services of a qualified independent auditor to perform an annual audit each fiscal year. For fiscal year 2020, the Audit Committee designated Plante Moran to conduct the annual audit. The independent auditors' report, audited financial statements, required supplementary information, and supporting schedules are included in the Financial Section of this report.

ACTUARIAL REVIEW AND VALUATION

An actuarial review, commonly called an experience study, of the mortality, service, withdrawals, and compensation experience of members is required by statute at least once during each five-year period. The last actuarial review was performed during fiscal year 2020 by NHRS' current actuary, Gabriel, Roeder, Smith and Company and was based on the information available as of June 30, 2019. An actuarial valuation of the assets and liabilities is required by statute at least once during each two-year period. The June 30, 2017 actuarial valuation was used to determine employer contribution rates for fiscal years 2020 and 2021. The June 30, 2019 actuarial valuation was used to determine employer contribution rates for fiscal years 2022 and 2023. The actuarial certification and supporting statistics are included in the Actuarial and Statistical Sections of this report.

CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE IN FINANCIAL REPORTING

The NHRS Comprehensive Annual Financial Report for the fiscal year ended June 30, 2019, was awarded the Certificate of Achievement for Excellence in Financial Reporting by the Government Finance Officers Association of the United States and Canada (GFOA). The Certificate of Achievement is the highest form of recognition in the area of state and local governmental accounting and financial reporting, and attaining it represents a significant accomplishment by a government and its management. We are gratified that NHRS has received this award for 29 of the past 30 years. A copy of the fiscal year 2019 award is presented on page 10.

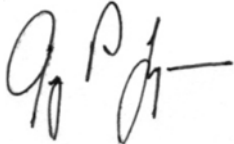
ACKNOWLEDGMENTS

The compilation of this report reflects the combined efforts of the NHRS administrative staff under the direction of the Board of Trustees. It is intended to provide extensive and reliable information as a basis for making management decisions, determining compliance with legal provisions, and for determining responsible stewardship for the investment and accounting for assets of plan participants. We would like to take this opportunity to express our gratitude to the Board of

Trustees for its guidance and support and to the administrative staff for their dedication and commitment to the mission, vision and values of the New Hampshire Retirement System — “To provide secure retirement benefits and superior service.” We would also like to note our appreciation for the professional and diligent work of the Independent Investment Committee whose efforts have consistently generated superior returns in accordance with the Board’s investment policy.

Respectfully submitted,

George P. Lagos

A handwritten signature in black ink, appearing to read "G. P. Lagos", with a horizontal line extending from the end.

Executive Director

Gerard Murphy

A handwritten signature in black ink, appearing to read "Gerard J. Murphy", written in a cursive style.

Director of Finance

NEW HAMPSHIRE RETIREMENT SYSTEM

FINANCIAL SECTION

[CLICK HERE TO RETURN TO INDEX](#)

**INDEPENDENT
AUDITORS'
REPORT**



Plante & Moran, PLLC

Suite 1250
1111 Superior Ave.
Cleveland, OH 44114
Tel: 216.523.1010
Fax: 216.523.1025
plantemoran.com

Independent Auditor's Report

To the Board of Trustees
New Hampshire Retirement System

REPORT ON THE FINANCIAL STATEMENTS

We have audited the accompanying financial statements of the New Hampshire Retirement System (the "System"), a component unit of the State of New Hampshire, as of and for the year ended June 30, 2020 and the related notes to the financial statements, which collectively comprise the New Hampshire Retirement System's basic financial statements, as listed in the table of contents.

MANAGEMENT'S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes 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.

AUDITOR'S RESPONSIBILITY

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

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

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

OPINION

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the fiduciary net position of the New Hampshire Retirement System as of June 30, 2020 and the changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

OTHER MATTERS

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the other required supplementary information, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, which 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 New Hampshire Retirement System's basic financial statements. The supporting schedules, as identified in the table of contents, and introductory, investment, actuarial, and statistical sections are presented for the purpose of additional analysis and are not a required part of the basic financial statements.

The supporting schedules, as identified in the table of contents, are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supporting schedules, as identified in the table of contents, are fairly stated in all material respects in relation to the basic financial statements as a whole.

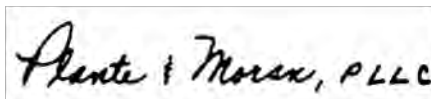
The introductory, investment, actuarial, and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and, accordingly, we do not express an opinion or provide any assurance on them.

REPORT ON SUMMARIZED COMPARATIVE FINANCIAL INFORMATION

We have previously audited the New Hampshire Retirement System's June 30, 2019 financial statements, and we expressed an unmodified audit opinion on those basic financial statements in our report dated December 4, 2019. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2019 is consistent, in all material respects, with the audited financial statements from which it has been derived.

OTHER REPORTING REQUIRED BY GOVERNMENT AUDITING STANDARDS

In accordance with *Government Auditing Standards*, we have also issued our report dated November 30, 2020 on our consideration of the New Hampshire Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the New Hampshire Retirement System's internal control over financial reporting and compliance.



November 30, 2020



THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

MANAGEMENT'S DISCUSSION AND ANALYSIS — REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

This section presents management's discussion and analysis of the New Hampshire Retirement System's (NHRS) financial performance during the fiscal year ended June 30, 2020 and is presented as a narrative overview and analysis in conjunction with the Letter of Transmittal included in the Introductory Section of the System's Comprehensive Annual Financial Report. The report presents the combined assessment of the financial performance of the Pension Plan and the OPEB Plan.

The discussion and analysis is intended to serve as an introduction to the basic financial statements. These statements include the Combining Statements of Fiduciary Net Position and Changes in Fiduciary Net Position, and the related Notes to the Financial Statements for the fiscal year ended June 30, 2020 with summarized comparative information for fiscal year 2019. In addition, Required Supplementary Information is provided for the Pension and OPEB plan. The excess of assets over liabilities is reported as "Net Position Restricted for Pension and Other Post Employment Benefits (OPEB)."

FINANCIAL HIGHLIGHTS

Net position decreased by \$73.5 million (0.8%) from the prior year's net position reflecting a volatile and challenging investment year.

Net investment income during fiscal year 2020 was \$101.4 million, a \$388.8 million (79.3%) decrease over the prior fiscal year. The net investment income for fiscal year 2020 reflects a time-weighted return for the total fund during the year of 1.1% compared to a time-weighted investment return of 5.7% for the fiscal year ended June 30, 2019.

The total contributions received during the fiscal year were \$721.2 million. For fiscal year 2019, total contributions received were \$703.9 million.

Employer contributions for fiscal year 2020 increased 2.4%, to \$491.5 million, compared with employer contributions in fiscal year 2019 of \$479.9 million. The increase in employer contributions in fiscal year 2020 was primarily due to growth in covered payroll.

Member contributions were \$229.7 million in fiscal year 2020, an increase of 2.5% over fiscal year 2019 member contributions of \$224.0 million. The increase in member contributions is primarily due to an increase in earnable compensation rates for contributing members. Overall member normal contributions increased by \$6.5 million or 3.0% over the prior fiscal year. Voluntary member contributions decreased by \$0.8 million or 17.0% over fiscal year 2019.

Benefits paid during fiscal year 2020 were \$863.5 million, an increase of 4.2% over benefits paid in fiscal year 2019 of \$828.7 million. The increase in benefits paid in fiscal year 2020 is primarily due to an increase in the number of retirees and increased average benefit levels for those new retirees.

FINANCIAL ANALYSIS

The following schedules report the Condensed Comparative Net Position Information and the Condensed Comparative Changes in Net Position Information for the NHRS for the fiscal years ended June 30, 2020 and June 30, 2019.

Condensed Comparative Plan Net Position — Combined Plans

(Dollar Values Expressed in Millions)

	As of June 30, 2020	As of June 30, 2019	Amount Increase (Decrease)	Percentage Increase (Decrease)
Cash	\$ 231.7	\$ 234.6	\$ (2.9)	(1.2%)
Receivables	99.2	120.5	(21.3)	(17.7%)
Investments	8,826.2	8,894.5	(68.3)	(0.8%)
Other Assets	2.8	1.1	1.7	154.5%
Total Assets	\$ 9,159.9	\$ 9,250.7	\$ (90.8)	(1.0%)
Other Liabilities	25.8	43.1	(17.3)	(40.1%)
Total Liabilities	\$ 25.8	\$ 43.1	\$ (17.3)	(40.1%)
Net Position Restricted for:				
Pensions	9,097.4	9,170.8	(73.4)	(0.8%)
Post Employment Benefits Other Than Pensions	36.7	36.8	(70.1)	(0.3%)
Total Restricted Net Position	\$ 9,134.1	\$ 9,207.6	\$ (73.5)	(0.8%)

Total assets decreased by \$90.8 million (1.0%) in fiscal year 2020. Cash on hand at fiscal year end was \$231.7 million (1.2%) lower than at fiscal year end 2019 reflecting higher draw downs of liquidity reserves necessary to meet operating obligations. Receivables decreased by \$21.3 million (17.7%) compared to the prior fiscal year primarily due to a decrease in the pending sales of securities and a decrease in the contributions due from employers at fiscal year end. Investments decreased by \$68.3 million (0.8%) in fiscal year 2020. The decrease in investments is attributable to a volatile and challenging investment landscape in recent years exacerbated this year by the COVID-19 pandemic. Other assets increased by \$1.7 million for fiscal year 2020.

Total liabilities decreased by \$17.3 million (40.1%) at the end of fiscal year 2020 primarily due to a decrease in pending purchases of securities at fiscal year end.

Condensed Comparative Changes in Plan Net Position — Combined Plans

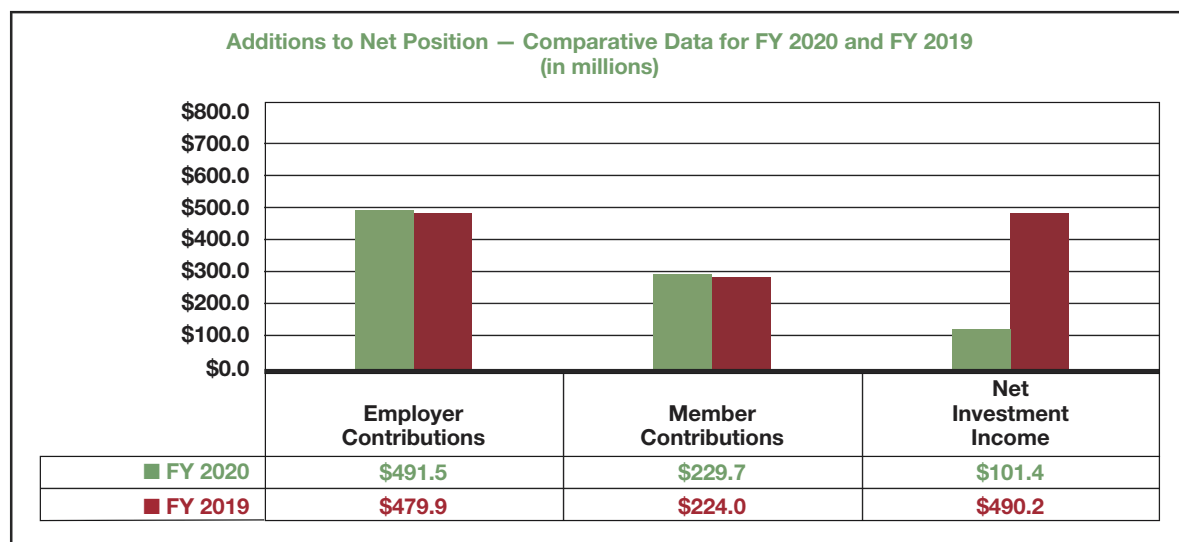
(Dollar Values Expressed in Millions)

	Year Ended June 30, 2020	Year Ended June 30, 2019	Amount Increase (Decrease)	Percentage Increase (Decrease)
ADDITIONS:				
Employer Contributions	\$ 491.5	\$ 479.9	\$ 11.6	2.4%
Member Contributions	229.7	224.0	5.7	2.5%
Net Investment Income (Loss)	101.4	490.2	(388.9)	(79.3%)
Total Additions to Plan Net Position	\$ 822.6	\$ 1,194.1	\$ (371.5)	(31.1%)
DEDUCTIONS:				
Benefits Paid	\$ 863.5	\$ 828.7	\$ 34.8	4.2%
Refunds of Contributions	23.3	23.5	(0.2)	(0.9%)
Administrative Expense	8.5	7.6	7.6	11.8%
Other Deductions	0.8	0.9	(0.1)	(11.1%)
Total Deductions from Plan Net Position	\$ 896.1	\$ 860.7	\$ 35.4	4.1%
Total Changes in Plan Net Position	\$ (73.5)	\$ 333.4	\$ (406.9)	(122.0%)

ADDITIONS TO NET POSITION

For fiscal year 2020, the combined total of employer and member contributions increased by \$17.3 million or 2.5%. Employer contributions increased from \$479.9 million in fiscal year 2019 to \$491.5 million or 2.4% in fiscal year 2020. The increase in employer contributions is primarily due to growth in covered payroll. Member contributions for fiscal year 2020 were \$229.7 million, an increase of \$5.7 million or 2.5% from fiscal year 2019. Member normal contributions increased \$6.5 million or 3.0% in fiscal year 2020 and voluntary member contributions decreased by \$0.8 million or 17.0%.

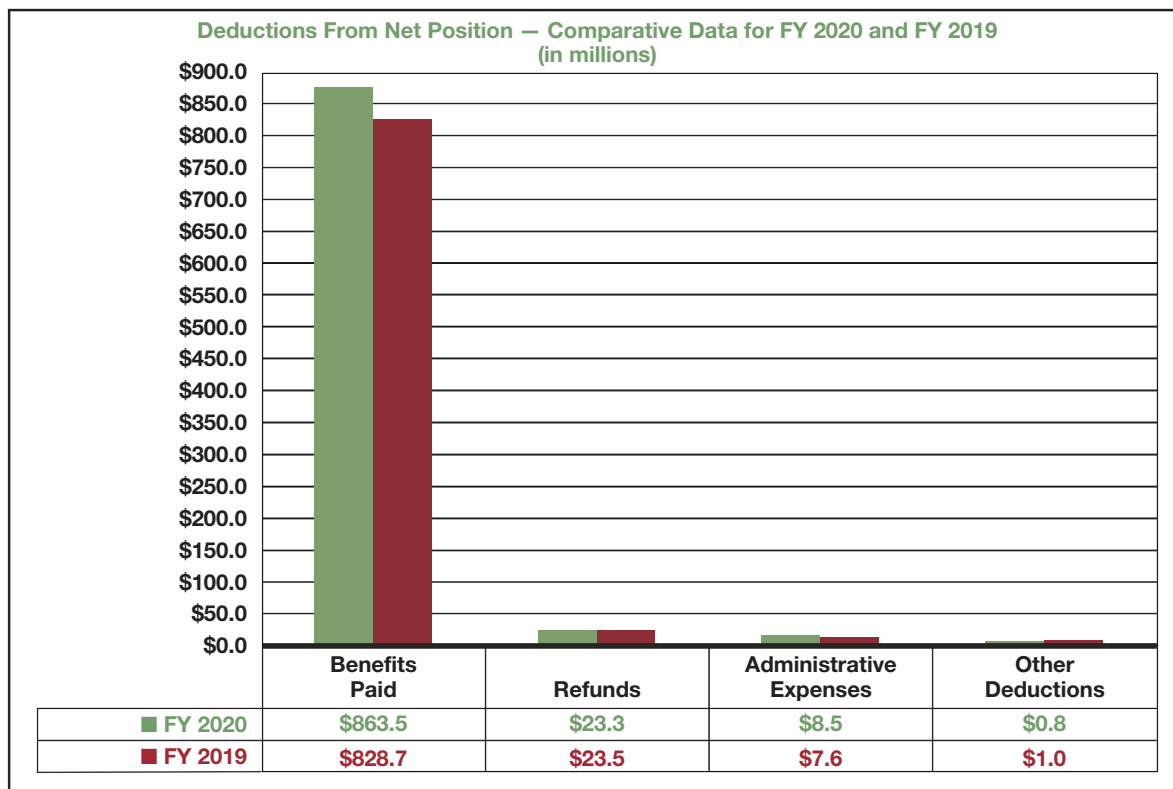
Over the long term, the Plan's investment portfolio has been a major source for additions to plan net position. There was a net investment income gain in fiscal year 2020 of \$101.4 million compared with a net investment income gain in fiscal year 2019 of \$490.2 million. The net change from year-to-year was (\$388.8) million or (79.3%), a decrease from fiscal year 2019. The decrease in investment income is due to a volatile and challenging investment landscape in recent years exacerbated this year by the COVID-19 pandemic.



DEDUCTIONS FROM NET POSITION

Total benefits paid in fiscal year 2020 were \$863.5 million, an increase of \$34.8 million or 4.2% over the fiscal year 2019 level of \$828.7 million. Pension benefits paid in fiscal year 2020 were \$816.7 million, an increase of \$35.8 million or 4.6% compared with the pension benefits paid in fiscal year 2019 of \$780.9 million. The increase in pension benefits paid in fiscal year 2020 is primarily due to an increase in the number of retirees and increased average benefit levels for those new retirees. OPEB benefits paid in fiscal year 2020 were \$46.8 million, which was slightly lower than the benefits paid in 2019. Future OPEB benefit payments are expected to remain flat or decrease over time as there is a very small population of active members that can still qualify for this benefit. Refunds of contributions were \$23.3 million, a decrease of \$0.2 million or 0.7% over the 2019 level of \$23.5 million. The decrease reflects a decrease in the number and dollar value of refund requests from terminated members in 2020.

Administrative expenses increased by \$0.9 million or 11.8% in fiscal year 2020 to a level of \$8.5 million compared with \$7.6 million in 2019. Administrative expenses increased primarily due to an increase in staff that was necessary to assist the system with completion of a four year pension administration system upgrade project.

**PLAN FUNDING STATUS**

Funded ratios are a useful measurement that can be used in conjunction with many other factors to assess the financial soundness of a pension or OPEB plan. The Pension Plan's funded ratio is calculated by dividing the plan fiduciary net position of assets available to pay pension benefits by the total pension liability. The OPEB Plan's funded ratio is calculated by dividing the plan fiduciary net position of assets at year end by its total OPEB liability at year end. The liabilities that were used to determine the funded ratios for both the Pension and OPEB plan were determined using the entry age normal actuarial cost method for both fiscal year 2020 and 2019. An experience study was completed in FY 2020 using data as of 2019. As a result of this study many new assumptions were adopted including a reduction to the assumed rate of return to 6.75%, wage inflation was reduced to 2.75% for all groups except Teachers which was reduced to 2.25% and mortality assumptions were updated as well.

The total pension liability under GAAP at June 30, 2020, was \$15,493.5 million. The fiduciary net position available to pay pension benefits at June 30, 2020 was \$9,097.4 million, resulting in a net pension liability of \$6,396.1 million and a funded ratio of 58.7%. As of June 30, 2019, the total pension liability was \$13,982.4 million. The fiduciary net position available to pay pension benefits at June 30, 2019 was \$9,170.8 million, resulting in a net pension liability of \$4,811.7 million and a funded ratio of 65.6%.

The total OPEB liability under GAAP at June 30, 2020, was \$474.4 million. The fiduciary net position available to pay postemployment medical benefits at June 30, 2020 was \$36.7 million resulting in a net OPEB liability of \$437 million and a funded ratio of 7.7% at June 30, 2020. As of June 30, 2019, the total OPEB liability was \$475.3 million. The fiduciary net position available to pay OPEB benefits at June 30, 2019 was \$36.8 million resulting in a net OPEB liability of \$438.4 million and a funded ratio of 7.8%.

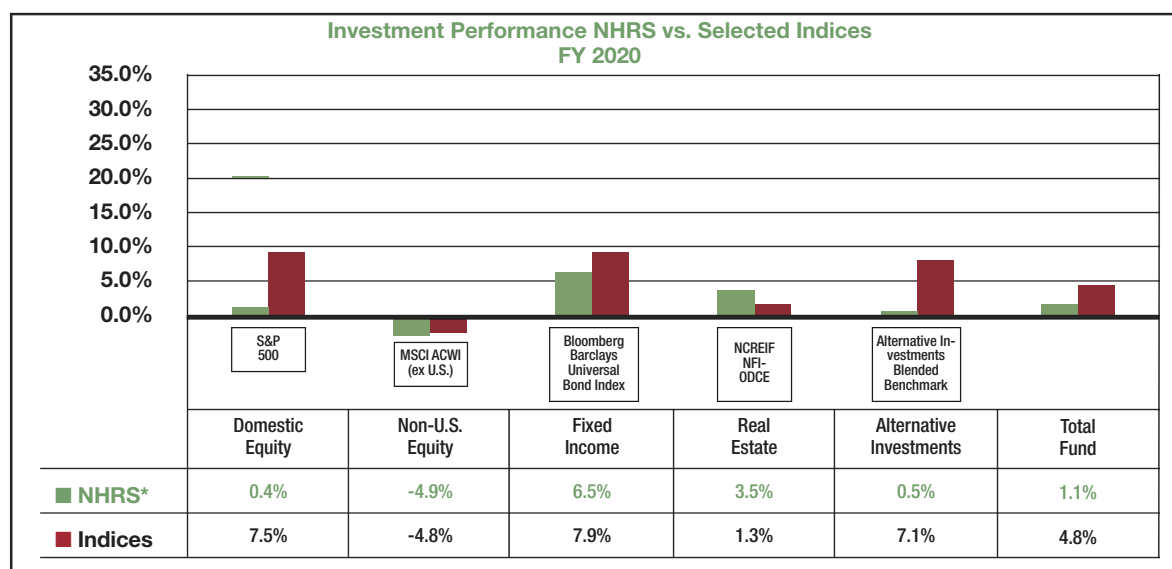
INVESTMENT PERFORMANCE

NHRS recognizes that it operates in a dynamic economic environment. The challenges of investing the Plans' funds strategically to achieve the actuarial rate of return while controlling risk are greater than ever. As such, NHRS has allocated assets to a broad range of asset classes.

Equity (45%), fixed income investments (23%), and cash equivalents (2%) comprise approximately 70% of invested assets at June 30, 2020. The remaining 30% of assets are invested in real estate (11%) and alternative investments (19%), which include private equity, private debt and absolute return strategies. These illiquid assets are expected to earn enhanced returns and manage risk through further diversification.

Investment performance results are measured by the relationship of the Plans' portfolio returns for equity and fixed income investments against widely-accepted market indices. For the fiscal year ended June 30, 2020, the Plans' total fund time-weighted rate of return was 1.1% compared to 5.7% for the fiscal year ended June 30, 2019. The difference in year-over-year performance was due to the slowing of the global economy which primarily impacted equity markets.

The total NHRS fund time-weighted rate of return of 1.1% for fiscal year 2020 underperformed the total fund custom index (a blended composition of major market indices in proportion to the NHRS' asset allocation), which returned 4.8%, by 370 basis points. Domestic Equity generated a return of 0.4%, underperforming the S&P 500 Index return of 7.5% by 710 basis points. The non-U.S. equity portfolio returned -4.9% during fiscal year 2020, outperforming the MSCI All Country World (ex U.S.) index return of -4.8% by 10 basis points. Fixed income returned 6.5% and underperformed the Bloomberg Barclays Capital Universal Bond Index benchmark return of 7.9% by 140 basis points. The real estate portfolio gained 3.5% and underperformed the NCREIF NFI-ODCE (Net of fee) Index return of 1.3% by 220 basis points. The alternative investment class provided a 0.5% return and underperformed the blended benchmark return of 7.1% by 660 basis points. The benchmark for this asset class is 33.3% S&P 500 Index +3%, 33.3% S&P LSTA Leverage Loan Index, 33.3% Cash (1-month USD LIBID) +5%.



**Performance returns are calculated on a net-of-fees time-weighted rate of return basis.

NEW ACCOUNTING PRONOUNCEMENT

In fiscal year 2020, the System adopted the provisions of GASB Statement No. 84, Fiduciary Activities.

CONTACTING NHRS

The Comprehensive Annual Financial Report is designed to provide a general overview of NHRS investment results and financial condition of the Pension and OPEB Plan for the year ended June 30, 2020. Detailed information regarding NHRS' investments as of June 30, 2020 can be found in the Comprehensive Annual Investment Report which is published by the Independent Investment Committee of the NHRS. Please contact the NHRS office at 603.410.3500 for additional financial information or for questions related to this report, or the Comprehensive Annual Investment Report. Additional information can also be obtained from the NHRS website at www.nhrs.org.

BASIC FINANCIAL STATEMENTS

COMBINING STATEMENTS OF FIDUCIARY NET POSITION PENSION AND OTHER POSTEMPLOYMENT MEDICAL PLANS (OPEB) AS OF JUNE 30, 2020 (with summarized financial information as of June 30, 2019) (in thousands)

	PENSION PLAN 2020	OPEB PLAN 2020	TOTAL 2020	TOTAL 2019
ASSETS:				
Cash & Cash Equivalents	\$ 230,865	\$ 818	\$ 231,683	\$ 234,592
Receivables:				
Due from Employers	44,392	4,702	49,094	50,176
Due from Plan Members	21,690	—	21,690	22,247
Due from Brokers for Securities Sold	10,911	39	10,950	25,744
Interest and Dividends	12,931	46	12,977	16,514
Other	4,498	16	4,514	5,811
Total Receivables	94,422	4,803	99,225	120,492
INVESTMENTS AT FAIR VALUE				
Equity Investments:				
Domestic	2,770,191	9,817	2,780,008	2,920,393
Non-U.S.	1,282,856	4,547	1,287,403	1,280,828
Fixed Income Investments:				
Domestic	1,961,079	6,951	1,968,030	1,916,263
Non-U.S.	98,463	349	98,812	188,034
Real Estate	963,939	3,416	967,355	923,712
Alternative Investments	1,718,513	6,091	1,724,604	1,665,289
TOTAL INVESTMENTS	8,795,041	31,171	8,826,212	8,894,519
Other Assets	2,740	10	2,750	1,070
TOTAL ASSETS	9,123,068	36,802	9,159,870	9,250,673
LIABILITIES:				
Management Fees and Other Payables	8,833	31	8,864	9,835
Due to Brokers for Securities Purchased	16,871	60	16,931	33,222
TOTAL LIABILITIES	25,704	91	25,795	43,057
NET POSITION — RESTRICTED FOR:				
Pensions	9,097,364	—	9,097,364	9,170,773
Employment Benefits Other Than Pensions	—	36,711	36,711	36,843
TOTAL RESTRICTED NET POSITION	\$9,097,364	\$36,711	\$9,134,074	\$9,207,616

The accompanying notes are an integral part of the financial statements.

**COMBINING STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
PENSION AND OTHER POSTEMPLOYMENT MEDICAL PLANS (OPEB)
FOR THE YEAR ENDED JUNE 30, 2020
(with summarized financial information for the year ended June 30, 2019)**

(in thousands)

	PENSION PLAN 2020	OPEB PLAN 2020	TOTAL 2020	TOTAL 2019
ADDITIONS:				
Contributions:				
Employer — Normal	\$ 444,717	\$46,460	\$ 491,177	\$ 479,857
Employer — Other	304	—	304	59
Total Employer Contributions	445,021	46,460	491,481	479,916
Plan Member	229,726	—	229,726	223,995
Total Contributions	674,747	46,460	721,207	703,911
Investment Income (Loss)				
From Investment Activities:				
Net Appreciation (Depreciation) in Fair				
Value of Investments	(34,705)	(129)	(34,834)	329,655
Interest	47,626	185	47,811	62,417
Dividends	70,498	273	70,771	74,155
Net Real Estate Income	16,770	65	16,835	14,099
Alternative Investment Income (Loss)	28,581	111	28,692	37,210
Total Income (Loss) from Investment Activities	128,770	505	129,275	517,536
Less: Investment Expenses:				
Investment Management Fees	25,464	99	25,563	24,926
Custodial Fees	648	3	651	662
Investment Advisor Fees	747	3	750	753
Investment Professional Fees	206	1	207	350
Investment Administrative Expense	666	3	669	632
Total Investment Activity Expenses	27,731	109	27,840	27,323
Total Net Income (Loss) from Investment Activities	101,039	396	101,435	490,213
Total Net Investment Income (Loss)	101,039	396	101,435	490,213
TOTAL ADDITIONS	775,786	46,856	822,642	1,194,124
DEDUCTIONS:				
Benefits Paid	816,708	46,816	863,524	828,705
Refunds of Contributions	23,312	—	23,312	23,464
Administrative Expense	8,282	169	8,451	7,588
Professional Fees	656	2	658	688
Other	237	1	238	238
TOTAL DEDUCTIONS	849,195	46,988	896,183	860,683
CHANGE IN NET ASSETS	\$ (73,409)	\$ (132)	\$ (73,541)	\$ 333,441
NET INCREASE (DECREASE) IN FIDUCIARY NET POSITION				
Net Position — Beginning	\$9,170,773	\$36,843	\$9,207,616	\$8,874,175
Net Position — Ending	\$9,097,364	\$36,711	\$9,134,075	\$9,207,616

The accompanying notes are an integral part of the financial statements.

NOTES TO FINANCIAL STATEMENTS

NOTE 1 — NEW HAMPSHIRE RETIREMENT SYSTEM	29
• Plan Description	29
• Pension Plan	29
• Other Postemployment Benefit Plans (OPEB Plan)	31
NOTE 2 — SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND PLAN ASSET MATTERS	32
NOTE 3 — INVESTMENTS & DEPOSITS.....	33
• Custodial Credit Risk — Deposits.....	34
• Custodial Credit Risk — Investments	34
• Concentration of Credit Risk.....	34
• Interest Rate Risk — Fixed Income Investments	34
• Effective Duration — Fixed Income Investments	35
• Credit Risk — Fixed Income Securities.....	35
• Credit Quality Risk — Fixed Income Securities	36
• Foreign Currency Risk — Investments.....	36
• Foreign Currency Risk — Non U.S. Investments	37
• Derivatives.....	38
• Open Foreign Currency Exchange Contracts	39
NOTE 4 — FAIR VALUE MEASUREMENTS OF INVESTMENTS.....	41
NOTE 5 — NET LIABILITY OF EMPLOYERS — PENSION AND OPEB PLANS	43
NOTE 6 — CONTRIBUTIONS.....	46
• Pension Plan	46
• OPEB Plan.....	46
• Total Amounts Contributed	47
• Total Amounts Contributed as a Percentage of Covered Payroll.....	48
NOTE 7 — ADMINISTRATIVE EXPENSES	48
NOTE 8 — CONTINGENT MATTERS.....	48
NOTE 9 — PENSION RESERVES	48

NOTE 1 — NEW HAMPSHIRE RETIREMENT SYSTEM

The New Hampshire Retirement System (NHRS) is a public employee retirement system that administers one cost-sharing multiple-employer defined benefit pension plan (Pension Plan) and one separate cost-sharing multiple-employer postemployment medical subsidy healthcare plan (OPEB Plan). Collectively the Pension Plan and the postemployment medical subsidy healthcare plan are hereafter referred to as the Plans.

NHRS is administered by a 13-member Board of Trustees that includes one employee member, one teacher member, one firefighter member, one police officer member, four employer representatives, four public members, and the State Treasurer. Trustees are fiduciaries bound by law to act solely in the interest of the participants and beneficiaries of the pension plan.

All trustees — with the exception of the State Treasurer, who serves as an ex officio member — are nominated by the governor for three-year terms and must be confirmed by a vote of the Executive Council. Any newly appointed or reappointed trustee must have familiarity with or experience in finance or business management.

The New Hampshire State Employees' Association, the New Hampshire Education Association, the New Hampshire Police Association, and the New Hampshire State Permanent Firemen's Association each submit a list of five active members of the retirement system from which the governor chooses a nominee to represent each of the four member groups.

The New Hampshire Municipal Association, the New Hampshire School Boards Association, and the New Hampshire Association of Counties each put forth a name to the governor for nomination as an employer trustee. The Governor also identifies and nominates one person to represent management of state employees.

The governor identifies and nominates the public member trustees, all of whom must be qualified persons with investment and/or financial experience who are not members of the retirement system. The public trustees must also have substantial experience in the field of institutional investment or finance such as educational background, business experience, and/or professional licensure and designations.

The governor is responsible to designate one of the public trustees to serve as chair of the board.

Although the assets of the Plans are commingled for investment purposes, each plan's assets may be used only for the payment of benefits to the members of that plan, in accordance with the plan's individual terms. Accordingly, the results of each plan are presented separately in the accompanying financial statements. Investment income or losses are allocated to the Pension and OPEB plans based on fund balances. Administrative costs are allocated based on estimated staff time.

The administrative office of NHRS, which functions as a self-sustaining governmental entity, operates under a budget which is proposed by management, approved by the Board of Trustees, submitted under the budget preparation guidelines of the State of New Hampshire (State), and passed into law by the New Hampshire Legislature. NHRS participates as an employer in the Plans and its employees are members of the Plans.

In accordance with Governmental Accounting Standards Board (GASB) No. 14, as amended, the New Hampshire Retirement System is a fiduciary component unit of the State. This determination was made on the basis of fiscal dependence on the State solely for budget oversight over certain administrative expenses. A copy of the State of New Hampshire's CAFR may be viewed at www.admin.state.nh.us/accounting/.

PENSION PLAN

The Pension Plan was established in 1967 by RSA 100-A:2 and is qualified as a tax-exempt organization under Sections 401(a) and 501(a) of the Internal Revenue Code. The Pension Plan is a contributory, defined benefit plan providing service, disability, death and vested retirement benefits to members and their beneficiaries. Substantially all full-time state employees, public school teachers and administrators, permanent firefighters and permanent police officers within the State are eligible and required to participate in the Pension Plan. Full-time employees of political subdivisions, including counties, municipalities and school districts, are also eligible to participate as a group if the governing body of the political subdivision has elected participation.

The type and number of employers contributing to the Pension Plan during the years ended June 30, 2020 and 2019 are presented below.

For GASB 67 disclosure purposes all State entities contributing to the pension plan are considered one employer.

EMPLOYERS CONTRIBUTING	2020	2019
State Government	1	1
City Governments	13	13
Town Governments and Related Entities	238	242
County Governments and Related Entities	12	12
School Districts and School Administrative Units	197	197
Total Employers	461	465

MEMBERSHIP DATA	2020	2019
Inactive plan members (or their beneficiaries) currently receiving benefits	39,612	38,352
Inactive members entitled to but not yet receiving benefit payments	2,661	2,552
Active plan members	48,479	48,288
Inactive members not vested	13,760	12,530
Total Membership	104,512	101,722

The Pension Plan is divided into two membership groups. State and local employees and teachers belong to Group I. Police officers and firefighters belong to Group II. All assets are held in a single trust and are available to pay retirement benefits to all members. Benefits available to each membership group are summarized below.

Group I Members at age 60 qualify for a normal service retirement allowance based on years of creditable service and average final salary for the highest three years. Members commencing service on or after July 1, 2011 qualify for a normal service retirement allowance at age 65 based on years of creditable service and average final compensation for the highest five years. Members hired prior to July 1, 2011 with a non-vested status as of January 1, 2012 qualify for a normal service retirement allowance at age 60 based on years of creditable service and average final compensation for the highest five years. The yearly pension amount is 1/60 or 1.667% of average final compensation (AFC), multiplied by years of creditable service. AFC is defined as the average of the three or five highest salary years, and for benefit calculation purposes only, the final year's compensation cannot exceed by more than 150% the higher of the previous year's compensation or the compensation for the highest year used in the calculation of AFC (not including the final year's compensation). At age 65, the yearly pension amount is recalculated at 1/66 or 1.515% of AFC multiplied by years of creditable service. Members in service with 10 or more years of creditable service who are between age 50 and 60 or members in service with at least 20 years of creditable service, whose age plus service is equal to or greater than 70, are entitled to a retirement allowance with the appropriate graduated reduction based on years of creditable service. Members commencing service on or after July 1, 2011 at age 60 with 30 years of creditable service are entitled to a retirement allowance with the appropriate graduated reduction based on years of creditable service.

Group II Members who are age 60, or members who are at least age 45 with at least 20 years of creditable service, can receive a retirement allowance at a rate of 2.5% of AFC for each year of creditable service, not to exceed 40 years. Members commencing service on or after July 1, 2011 or members who have a non-vested status as of January 1, 2012 can receive a retirement allowance at age 52.5 with 25 years of service or age 60. The benefit shall be equal to 2% of AFC times creditable service up to 42.5 years. However, a member who commenced service on or after July 1, 2011 shall not receive a retirement allowance until attaining the age of 52.5, but may receive a reduced allowance after age 50 if the member has at least 25 years of creditable service where the allowance shall be reduced, for each month by which the benefit commencement date precedes the month after which the member attains 52.5 years of age by $\frac{1}{4}$ of 1% or age 60.

Members of both groups may qualify for vested deferred allowances, disability allowances and death benefit allowances subject to meeting various eligibility requirements. Benefits are based on AFC or earnable compensation and/or service.

Members are required to contribute a percentage of gross earnings to the Pension Plan as more fully described in Note 6. The percentage rates, established by state statute, are dependent upon member group classification. The deductions are made from member wages and are remitted by the employer to the Pension Plan on a monthly basis. If a member leaves employment prior to retirement or vesting, accumulated member contributions plus earned interest are refunded to the withdrawing member or to the designated beneficiary in the case of death. However, accumulated contributions plus interest of a non-vested, non-contributing member may remain in the Pension Plan and continue to earn interest. The interest credited to the inactive member's accumulated contributions will be 2 percentage points less than the assumed rate of return or the actual rate of return, whichever is less as reported in the preceding fiscal year's comprehensive annual financial report, but will not be less than zero.

Employers make monthly contributions to the Pension Plan based on rates determined by periodic actuarial valuations as more fully described in Note 6.

OTHER POSTEMPLOYMENT BENEFIT PLAN (OPEB)

Pursuant to RSA 100-A:52, RSA 100-A:52-a and RSA 100-A:52-b, the NHRS administers a cost-sharing multiple employer defined benefit postemployment medical subsidy healthcare plan designated in statute by membership type. The four membership groups are Group II Police Officer and Firefighters, Group I Teachers, Group I Political Subdivision Employees and Group I State Employees. Collectively, they are referred to as the OPEB Plan.

The OPEB Plan provides a medical insurance subsidy to qualified retired members. The medical subsidy is a payment made by NHRS to the former employer or their insurance administrator toward the cost of health insurance for a qualified retiree, his/her qualified spouse, and his/her certifiably dependent children with a disability who are living in the household and being cared for by the retiree. Under specific conditions, the qualified beneficiaries of members who die while in service may also be eligible for the medical subsidy. The eligibility requirements for receiving OPEB Plan benefits differ for Group I and Group II members.

The following Group I members and their qualified spouses are eligible for coverage under the postemployment medical plan if they are receiving health coverage under the group plan offered by their former employer:

- Employee and teacher members of political subdivisions who were eligible to retire as of July 1, 2008 and who actually retired on or before July 1, 2009, on Service, Early Service, Vested Deferred or Ordinary Disability retirement after completing at least 20 years of creditable service and who subsequently attain age 60 or after completing at least 30 years of creditable service and who subsequently attain age 55.
- Employee and teacher members of political subdivisions who retired on Accidental Disability Retirement on or before July 1, 2004.
- Employee members of the State who retired on or before July 1, 2004, on Service, Ordinary Disability or Vested Deferred Retirement become eligible for the medical subsidy at age 60 with at least 20 years of creditable service; or as early as age 55 with at least 30 years of creditable service.
- Surviving spouses of deceased employee and teacher members of political subdivisions who die while in service, provided that such surviving spouse was covered as the member's spouse in the employer-sponsored plan before the member's death and is entitled to a monthly allowance under Accidental Death, Ordinary Death, or an Optional Allowance.
- Surviving spouses and children of employee and teacher members of political subdivisions and employee members of the State who die as the natural and proximate result of injuries suffered while in the performance of duty. Eligibility for the medical subsidy ceases when the dependent child attains age 18 or age 23, if attending school on a full-time basis, or upon the spouse's remarriage.
- Vested terminated employee members of the State (and spouses) who completed at least 20 years of creditable service and as of July 1, 2004 received an allowance and who subsequently attain age 60.
- Employee members of the State (and spouses) who retired on or before July 1, 2004 after completing at least 20 years of creditable service and who subsequently attained age 60; or after completing at least 30 years of creditable service and who subsequently attained age 55.
- Surviving spouses of deceased employee members of the State who died while in service on or before July 1, 2004, provided that such surviving spouse was covered as the member's spouse in the employer-sponsored plan before the member's death and is entitled to a monthly allowance under Accidental Death, Ordinary Death, or an Optional Allowance.

The following Group II members are eligible for the postemployment medical plan:

- Group II police officer members (or beneficiaries) who are active or retired as of June 30, 2000.
- Group II firefighter members (or beneficiaries) who are active or retired as of June 30, 2000.
- Persons who prior to July 1, 1988, had completed at least 20 years of Group II service and were eligible as of July 1, 1993 for a vested deferred retirement benefit.
- Group II members retired as of July 1, 1991 with a split benefit under RSA 100-A:19-c who had at least 10 years of Group II service.
- Group II members as of June 30, 2005 who subsequently became disabled while in the performance of duty at any time in the future.
- Surviving spouses of deceased Group II members who retired prior to April 1, 1987 and who are not receiving a monthly allowance.

The OPEB plan is closed to new entrants.

The OPEB Plan is funded by allocating to the 401(h) subtrust the lesser of:

- a.) 25% of all employer contributions made in accordance with RSA 100-A:16; or

b.) the percentage of employer contributions determined by the actuary to be the minimum rate necessary to maintain the benefits provided under RSA 100-A:53, RSA 100-A:53-b, RSA 100-A:53-c and RSA 100-A:53-d.

For fiscal year 2020, the minimum rates determined by the actuary to maintain benefits were the lesser of the two options and were used to determine the employer contributions due to the 401(h) subtrust.

The State Legislature has the authority to establish, amend and discontinue the contribution requirements of the OPEB Plan.

The type and number of employers contributing to the OPEB plan during the years ended June 30, 2020 and June 30, 2019 are presented below.

EMPLOYERS CONTRIBUTING	2020	2019
State Government	1	1
City Governments	13	13
Town Governments and Related Entities	238	242
County Governments and Related Entities	12	12
School Districts and School Administrative Units	197	197
Total Employers	461	465

Membership of the OPEB plan consisted of the following eligible retirees receiving benefits as of June 30, 2020 and 2019

MEMBERSHIP DATA	2020	2019
Inactive plan members or beneficiaries currently receiving benefit payments	9,487	9,650
Inactive plan members entitled to but not yet receiving benefit payments	2,982	2,970
Active plan members	892	1,045
Total Membership	13,361	13,665

The maximum monthly subsidy amounts paid during fiscal year 2020 and 2019 were as follows:

For qualified retirees not eligible for Medicare the amounts were \$375.56 for a single-person plan and \$751.12 for a two-person plan. For those qualified retirees eligible for Medicare, the amounts were \$236.84 for a single-person plan and \$473.68 for a two-person plan. There have been no increases in the monthly maximum subsidy amounts payable since July 1, 2007.

Benefit provisions of the OPEB Plan can be amended only by legislative action taken by the New Hampshire State Legislature pursuant to the authority granted them under the New Hampshire State Constitution. The Legislature may cease providing the medical subsidy benefits under the OPEB Plan, for any reason, at any time.

NOTE 2 — SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND PLAN ASSET MATTERS

BASIS OF ACCOUNTING

The System's financial statements are prepared using the economic resources measurement focus and accrual basis of accounting. Both plan member and employer contributions are recognized in the period in which the contributions are legally due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

The financial statements include prior-year summarized comparative financial information in total but not on a combining plan basis. Such summarized information is not intended to constitute sufficient detail to establish a presentation in accordance with GAAP and, accordingly, should be read in conjunction with the System's financial statements for the year ended June 30, 2019, from which the summarized information was derived.

PRIOR YEAR RECLASSIFICATIONS

Certain 2019 information has been reclassified to conform to the 2020 presentation. These reclassifications had no impact to the Net Position Restricted for Pensions and Other Post Employment Benefits.

INVESTMENTS

Investments are reported at fair value.

Investments in both domestic and non-U.S. marketable securities traded on a national or international exchange are valued at quoted market prices. Domestic and non-U.S. securities not traded on a national or international exchange are based upon quoted prices for comparable instruments with similar yields and risk in active and inactive markets. NHRS

uses a trade-date accounting basis for both domestic and non-U.S. securities and values are expressed in U.S. dollars. Investments in non-registered commingled funds are valued at net asset value (NAV) as a practical expedient to estimate fair value.

Real estate includes investments in commingled funds which are reported at net asset value (NAV). The NAVs for real estate investments recorded in this report were obtained from statements provided by the general partners of commingled funds. Real estate commingled funds are selected by the System's discretionary real estate manager.

Alternative investments include investments in private equity, private debt and absolute return strategies which are reported at net asset value (NAV). The NAVs for alternative investments recorded in this report were obtained from statements provided by the investment managers.

Cash and cash equivalents are valued at cost, which approximates fair value. Cash and cash equivalents primarily represent investments in the pooled short-term investment fund managed by NHRS' master custodian. This fund invests mainly in high-grade money market instruments with maturities averaging less than three months. The fund provides daily liquidity.

The Plans hold no investments, either directly or indirectly, nor participates in any loans or leases, nor other party-in-interest transactions with any NHRS officials, New Hampshire State Government officials, or parties related to these officials.

MONEY WEIGHTED RATE OF RETURN

The annual money-weighted rate of return at June 30, 2020 was 1.2% and 5.7% for June 30, 2019. The return shows the investment performance net of fees and is adjusted for the timing of cash flows and the changing amounts actually invested.

USE OF ESTIMATES

Management of the System has made a number of estimates and assumptions relating to the reporting of assets and liabilities and in the disclosure of contingencies to prepare these financial statements in conformity with U.S. generally accepted accounting principles (GAAP). The System's most significant estimates relate to assumptions made about future events as part of the annual actuarial valuation process, and the valuation of alternative investments. Due to the inherent nature of these estimates, actual results could differ from those estimates.

NEW ACCOUNTING PRONOUNCEMENT

In fiscal year 2020, the System adopted the provisions of GASB Statement No. 84, *Fiduciary Activities* (GASB 84). The objective of GASB 84 is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes, and how those activities should be reported, by establishing criteria for identifying fiduciary activities of all state and local governments, including public pension plans. This implementation did not have a material impact on the financial statements.

NOTE 3 — INVESTMENTS AND DEPOSITS

RSA 100-A:15, I, provides separate and specific authorities to the Board of Trustees and the Independent Investment Committee for the management of the funds of the Plans and charges them with exercising the judgment and care under the circumstances then prevailing, which persons of prudence, discretion and intelligence, acting in a like capacity and familiar with such matters, would use in the conduct of a pension plan of like character and with like aims of the Plans.

To aid in the prudent investment of the Plans' assets, NHRS has adopted an Investment Manual which includes an investment policy. Primary components of the investment policy include the delineation of roles and responsibilities of the Board of Trustees, Independent Investment Committee, staff, and service providers; investment objectives; asset allocation policy; and asset class performance measurement and monitoring policy. This policy may be modified by the Board of Trustees as deemed necessary. In addition, the Investment Manual includes asset class guidelines which provide parameters for investment management.

Professional investment managers are bound by policy and contract to a standard of care that establishes a fiduciary relationship, to the extent permitted by law, requiring the manager to act prudently and solely in the best interest of the Plans and beneficiaries. Investment guidelines provide portfolio-level standards for separate account management including permissible investment types; security concentration thresholds; investment restrictions; and benchmarks for performance measurement and monitoring. NHRS utilizes a custodial bank compliance system to monitor the marketable investment portfolios against their respective guidelines.

The System's asset allocation as of June 30, 2020 and 2019, as recommended by the Independent Investment Committee and adopted by the Board of Trustees, is as follows:

ASSET ALLOCATION Asset Class:	2020		2019	
	Target	Range	Target	Range
Large Cap Equities	22.5%		22.5%	
Small/Mid Cap Equities	7.5%		7.5%	
Total Domestic Equity	30.0%	20–40%	30.0%	20–40%
Int'l Equities (Unhedged)	13.0%		13.0%	
Emerging Int'l Equities	7.0%		7.0%	
Total International Equity	20.0%	15–25%	20.0%	15–25%
Core Bonds	4.5%		4.5%	
Short Duration	2.5%		2.5%	
Global Multi-Sector Fixed Income	11.0%		11.0%	
Absolute Return Fixed Income	7.0%		7.0%	
Total Fixed Income	25.0%	20–30%	25.0%	20–30%
Private Equity	10.0%		5.0%	
Private Debt	5.0%		5.0%	
Total Alternative Investments	15.0%	5–25%	15.0%	5–25%
Real Estate	10.0%		10.0%	
Total Real Estate	10.0%	5–20%	10.0%	5–20%
TOTAL	100.0%		100.0%	

CUSTODIAL CREDIT RISK — DEPOSITS

Custodial credit risk for deposits is the risk that in an event of a bank failure, deposits may not be recovered. NHRS does not have a deposit policy to manage custodial credit risk on deposits.

At June 30, 2020 and 2019, NHRS held deposits of \$17.1 million and \$14.6 million, respectively, in the local custodian bank. These deposits are fully insured or collateralized and are used to support the daily working capital needs of NHRS.

CUSTODIAL CREDIT RISK — INVESTMENTS

Investment securities are exposed to custodial credit risk if the investment securities are uninsured, are not registered in the name of the Plans, and are held by either:

- The counterparty to a transaction or
- The counterparty's trust department or agent but not in the Plans' name.

All of the System's securities are held by the System's bank in the System's name.

CONCENTRATION OF CREDIT RISK

Concentration of credit risk is the risk of loss attributable to the magnitude of the Plans' investments in a single issuer. NHRS policy is expressed through individual separate account manager guidelines which limit investments in a single issuer to 10%, or less, of the portfolio value in order to control the overall risk of loss on a total portfolio level. This threshold is set as an upper limit, and in actual practice, managers generally do not reach this limit. Certain securities may be excluded from this limitation due to the nature of the investments (such as U.S. government securities, government-sponsored enterprise obligations, and supranational debt). NHRS fixed income managers have consistently adhered to the established guidelines for issuer concentration. The fixed income commingled fund managers have established investment guidelines regarding concentration of credit risk. The total portfolio is broadly-diversified across equities, fixed income, cash equivalent securities, real estate and alternative investments. Due to this diversification, the concentration of credit risk in a single issuer is below 5% at the total portfolio level.

INTEREST RATE RISK — FIXED INCOME INVESTMENTS

Interest rate risk is the effect on the fair value of fixed income investments from changes in interest rates. Duration measures a debt investment's change in fair value arising from a change in interest rates.

Interest rate risk is illustrated below using the effective duration or option-adjusted methodology. This methodology is widely-used in the management of fixed income portfolios to quantify the risk associated with interest rate changes. The

effective duration methodology takes into account the most likely timing and magnitude of variable cash flows, such as callable options, prepayments and other factors, and scales the risk of price changes on bonds depending upon the degree of change in rates and the slope of the yield curve.

The NHRS policy on duration is expressed through individual portfolio guidelines with each investment manager in lieu of a broad, plan-level policy. Duration guidelines have been established with each fixed income manager in order to manage interest rate risk within the separate account portfolios. The fixed income commingled fund managers also have established investment guidelines regarding duration. These provisions specify that the duration of each individual fixed income portfolio will be managed within a specified percentage or number of years relative to its benchmark index. NHRS fixed income managers follow the established guidelines for duration. If there is an occasional exception, the manager prudently remedies the guideline breach.

The following effective duration tables quantify the interest rate risk of the Plans' fixed income assets at June 30, 2020 and 2019:

EFFECTIVE DURATION — FIXED INCOME INVESTMENTS (dollars in thousands)
AT JUNE 30, 2020

Investment Type	Fair Value June 30, 2020	Percentage of Fixed Income Investments	Effective Duration in Years	Weighted Average Effective Duration in Years
Collateralized/Asset Backed Obligations	\$ 196,991	9.5%	3.1	0.3
Corporate Bonds	708,168	34.3	8.2	2.8
Government and Agency Bonds*	357,048	17.3	6.7	1.2
Commingled Fund	241,492	11.7	3.1	0.36
Commingled Fund	358,617	17.3	6.1	1.06
Commingled Fund	204,526	9.9	4.1	0.41
Totals	\$2,066,842	100.0%		6.1

*Does not include 1 U.S. Treasury Bill that has a duration of less than one year.

EFFECTIVE DURATION — FIXED INCOME INVESTMENTS (dollars in thousands)
AT JUNE 30, 2019

Investment Type	Fair Value June 30, 2019	Percentage of Fixed Income Investments	Effective Duration in Years	Weighted Average Effective Duration in Years
Collateralized/Asset Backed Obligations	\$ 133,882	6.4%	3.0	0.2
Corporate Bonds	526,267	25.0	5.6	1.4
Government and Agency Bonds	641,553	30.5	5.3	1.6
Commingled Fund	263,096	12.5	2.9	0.36
Commingled Fund	267,385	12.7	4.7	0.6
Commingled Fund	225,053	10.7	4.6	0.49
Commingled Fund	47,061	2.2	(2.3)	(0.1)
Totals	\$2,104,297	100.0%		4.6

CREDIT RISK — FIXED INCOME SECURITIES

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations.

NHRS controls credit risk on debt securities by establishing requirements for average credit quality at the separate account portfolio level and through credit quality standards for individual securities. The NHRS policy on credit quality is expressed through individual portfolio guidelines with each investment manager in lieu of a broad, plan-level policy. The investment guidelines are customized to the individual manager's strategy. NHRS fixed income managers follow established guidelines for credit quality. If there is an occasional exception, the manager prudently remedies the guideline breach. NHRS applies standards with regard to securities rated by nationally recognized statistical rating organizations ("NRSRO") and uses the lowest agency ratings for evaluating the credit quality of a specific security. The fixed income commingled fund managers have established investment guidelines regarding credit risk.

The following schedules illustrate the Plans' fixed income investments as of June 30, 2020 and 2019, including the distribution of those investments by Standard & Poor's quality credit ratings:

CREDIT QUALITY RISK — FIXED INCOME SECURITIES AT JUNE 30, 2020 (in thousands)

Investment Type	Quality Ratings ¹					
	Fair Value June 30, 2020	AAA	AA	A	BBB or Lower	Unrated
Collateralized/Asset Backed Obligations	\$ 196,991	\$141,050	\$ 995	\$ 9,041	\$ 20,257	\$25,648
Corporate Bonds	708,169	—	37,681	171,745	492,697	6,046
Government and Agency Bonds ²	116,837	6,880	20,078	18,255	61,222	10,402
Commingled Fund ³	241,492	—	—	—	241,492	—
Commingled Fund ³	358,617	—	—	—	358,617	—
Commingled Fund ³	204,526	—	—	—	204,526	—
Totals	\$1,826,632	\$147,930	\$58,754	\$199,041	\$1,378,811	\$42,096
Percent of Total Fair Value		8.10%	3.22%	10.90%	75.48%	2.30%

¹Ratings were derived primarily from Standard & Poors (S&P). In instances where S&P did not rate a security, the Moody's rating was used.

²Government and Agency Bonds exclude U.S. government securities and securities explicitly guaranteed by the U.S. government (\$240,210) because these securities are not considered to have credit risk.

³Average credit quality ratings for the commingled funds was provided by Blackrock SIO, Fidelity, and Manulife respectively.

CREDIT QUALITY RISK — FIXED INCOME SECURITIES AT JUNE 30, 2019 (in thousands)

Investment Type	Quality Ratings ¹					
	Fair Value June 30, 2019	AAA	AA	A	BBB or Lower	Unrated
Collateralized/Asset Backed Obligations	\$ 133,882	\$ 86,749	\$ 1,080	\$ 1,151	\$ 19,596	\$ 25,306
Corporate Bonds	526,267	3,940	16,961	104,427	397,384	3,555
Government and Agency Bonds ²	206,948	19,681	18,397	91,785	61,295	15,790
Commingled Fund ³	47,061	—	—	47,061	—	—
Commingled Fund ³	225,053	—	—	225,053	—	—
Commingled Fund ³	267,385	—	—	—	267,385	—
Commingled Fund ³	263,096	60,512	15,260	31,045	98,398	57,881
Totals	\$1,669,692	\$170,882	\$51,698	\$500,552	\$844,058	\$102,532
Percent of Total Fair Value		10.23%	3.10%	29.98%	50.55%	6.14%

¹Ratings were derived primarily from Standard & Poors (S&P). In instances where S&P did not rate a security, the Moody's rating was used.

²Government and Agency Bonds exclude U.S. government securities and securities explicitly guaranteed by the U.S. government (\$434,605) because these securities are not considered to have credit risk.

³Average credit quality ratings for the commingled funds was provided by GAM, Manulife, Fidelity and Blackrock SIO respectively.

Investments in asset-backed and mortgage-backed securities are reported at fair value. Although not generally considered to be derivatives, asset-backed and mortgage-backed securities receive cash flows from interest and principal payments on the underlying assets and mortgages. As a result, they are exposed to prepayment risk. As of June 30, 2020 and 2019, the Plans' combined investment in asset-backed and mortgage-backed securities held in separate account portfolios totaled \$177.3 million and \$104.3 million, respectively.

FOREIGN CURRENCY RISK — INVESTMENTS:

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment.

NHRS manages its foreign currency risk primarily through its strategic asset allocation policy. As of June 30, 2020, investments in non-U.S. equity securities have a target asset allocation of 20% of total investments with a target range of 15–25%. As of June 30, 2020, non-U.S. fixed income securities represent 1.6% of the total investments as a result of the managers' security selection process. Non-U.S. investments are permitted in the alternative investment asset class, which includes private equity, private debt and absolute return strategy investments. The target allocation for alternative investments is 15% and the NHRS investment policy does not set limits for foreign investments in this asset class. The target allocation for real estate investments is 10%, and up to 35% of the Plans' real estate allocation may be invested in non-U.S. investments.

In addition, foreign currency risk is mitigated through the investment guidelines. NHRS manages its foreign exposure by requiring that separate account managers diversify their non-U.S. portfolios by country, sector and issuer to limit both foreign currency risk and security risk. Managers of commingled funds have discretion over their respective investment guidelines which must be consistent with strategies approved by the NHRS. In certain instances, where permitted in the investment guidelines, investment managers may also use foreign currency forward contracts to hedge against foreign currency risk.

The Plans' exposure to foreign currency risk at June 30, 2020 and 2019 is presented on the following schedules:

FOREIGN CURRENCY RISK — NON-U.S. INVESTMENTS (in thousands)
AS OF JUNE 30, 2020

Currency	Equity*	Fixed Income	Real Estate & Alternative Investments	Cash and Cash Equivalents	Totals
Australian dollar	\$ 9,287	\$ 11,736	\$ —	\$ —	\$ 21,023
Brazilian real	—	8,220	—	—	8,220
Canadian dollar	13,551	—	14,481	—	28,032
Colombian Peso	—	10,149	—	—	10,149
Danish krone	23,000	—	—	—	23,000
Euro	250,332	6,935	53,217	—	310,484
Hong Kong dollar	42,346	—	—	—	42,346
Indonesian rupiah	404	9,116	—	—	9,520
Japanese yen	68,430	—	17,736	—	86,166
Malaysian ringgit	—	11,641	—	—	11,641
Mexican peso	1,440	24,774	—	—	26,214
New Taiwan Dollar	2,992	—	—	—	2,992
Polish zloty	—	7,336	—	—	7,336
Pound sterling	78,714	—	1,105	—	79,819
Russian Ruble (New)	—	1,544	—	—	1,544
South African rand	—	7,361	—	—	7,361
South Korean won	10,845	—	—	—	10,845
Swedish krona	5,631	—	—	—	5,631
Swiss franc	91,636	—	—	—	91,636
Total investments subject to foreign currency risk	\$598,608	\$ 98,812	\$86,539	\$ —	\$ 783,959

*NHRS also invests in commingled funds where foreign currency risk information is not available. As a result, totals for equity shown on this schedule will not match the total non-U.S. equity shown on the Combining Statements of Fiduciary Net Position.

FOREIGN CURRENCY RISK — NON-U.S. INVESTMENTS
AS OF JUNE 30, 2019

(in thousands)

Currency	Equity*	Fixed Income	Real Estate & Alternative Investments	Cash and Cash Equivalents	Totals
Australian dollar	\$ 13,868	\$ 17,912	\$ —	\$ —	\$ 31,780
Brazilian real	6,342	16,885	—	—	23,227
Canadian dollar	21,480	1,813	14,821	—	38,114
Colombian Peso	—	17,435	—	—	17,435
Danish krone	15,065	—	—	—	15,065
Euro	302,594	2,404	61,928	92	367,018
Hong Kong dollar	58,454	—	—	—	58,454
Indonesian rupiah	5,625	13,208	—	—	18,833
Japanese yen	82,086	—	24,690	15	106,791
Malaysian ringgit	—	22,503	—	—	22,503
Mexican peso	—	52,923	—	—	52,923
New Zealand dollar	—	3,217	—	—	3,217
Norwegian krone	2,547	3,304	—	—	5,851
Polish zloty	—	19,854	—	—	19,854
Pound sterling	127,312	—	3,896	—	131,208
South African rand	—	16,576	—	—	16,576
South Korean won	18,281	—	—	—	18,281
Swedish krona	588	—	—	—	588
Swiss franc	58,699	—	—	—	58,699
Turkish lira	765	—	—	—	765
Total investments subject to foreign currency risk	\$713,706	\$188,034	\$105,335	\$ 107	\$1,007,182

*NHRS also invests in commingled funds where foreign currency risk information is not available. As a result, totals for equity shown on this schedule will not match the total non-U.S. equity shown on the Combining Statements of Fiduciary Net Position.

DERIVATIVES

Derivative instruments are contracts whose values are based on the valuation of an underlying asset, reference rate or index. Derivatives include futures, options, forward contracts and forward foreign currency exchanges. NHRS managers may enter into certain derivative instruments primarily to enhance the efficiency and reduce the volatility of the portfolio. There were no investments in options within the separate account portfolios. The NHRS investment policy and certain investment manager guidelines allow for the use of derivative instruments. The use of futures, options, or forward contracts is not permitted for any speculative hedging or leveraging of the portfolios and is prohibited in separate account mandates. Managers of commingled funds have discretion over their respective investment guidelines which may allow for the use of derivative instruments.

The Plans could be exposed to risk if the counterparties to the contracts are unable to meet the terms of the contracts. To mitigate this risk, investment managers conduct assessments of their counterparties and utilize exchanges which have trading standards.

NHRS managers may use futures, options, and foreign currency exchange contracts in order to manage currency risk or initiate transactions in non-U.S. investments. NHRS may be positively or negatively impacted by foreign currency risk due to fluctuations in the value of different currencies. NHRS may also be positively or negatively impacted by interest rate risk due to changes in interest rates. The Plans could be exposed to risk if the counterparties to the contracts are unable to meet the terms of the contracts. To mitigate this risk, investment managers conduct assessments of their counterparties and utilize exchanges which have trading standards. The fair value of open foreign currency exchange contracts including unrealized appreciation or depreciation is recorded on the Statements of Fiduciary Net Position as Due from Brokers for Securities Sold and as Due to Brokers for Securities Purchased. Expiration dates are less than one year. Details of the System's outstanding derivatives at June 30, 2020 and June 30, 2019 are shown below:

Derivative Type	Notional Amounts		Fair Value	
	2020	2019	2020	2019
Futures				
Fixed Income	\$29,809,079		\$30,703,776	
Equity	\$ 6,408,330	\$7,949,340	\$ 6,489,420	\$7,822,519
TOTAL	\$36,217,409	\$7,949,340	\$37,193,196	\$7,822,519

Foreign currency exchange contracts open at June 30, 2020 and 2019 are shown below and on the following page:

**OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS
AT JUNE 30, 2020**

(in thousands)

	Local Currency Amount	Effective Date	Maturity Date	Original Foreign Exchange Rate	Unrealized Appreci- ation (USD)	Unrealized (Depre- ciation) (USD)
Foreign currency exchange contracts purchased:						
Australian Dollar	3,500	5/4/20	8/6/20	0.64089 AUD / USD	—	(167)
Australian Dollar	6,350	5/5/20	8/6/20	0.644315 AUD / USD	—	(281)
Australian Dollar	550	5/6/20	8/6/20	0.6442 AUD / USD	—	(24)
Australian Dollar	6,120	5/26/20	8/27/20	0.665035 AUD / USD	—	(145)
Brazil Real	12,990	4/27/20	7/10/20	5.6958 AUD / USD	—	(84)
Canadian Dollar	360	6/29/20	7/2/20	1.366805 CAD / USD	—	(1)
Czech Koruna	14,000	4/20/20	7/20/20	25.18203 CZK / USD	—	(34)
Euro	508	6/29/20	7/1/20	0.890115 EUR / USD	—	—
Euro	21	6/30/20	7/2/20	1.119786 EUR / USD	—	—
Euro	219	6/30/20	7/2/20	0.889205 EUR / USD	—	—
Euro	5,090	5/29/20	10/2/20	1.136790 EUR / USD	62	—
Indonesian Rupiah	28,700,000	6/10/20	7/27/20	14339.85 IDR / USD	30	—
Indonesian Rupiah	38,500,000	6/11/20	9/11/20	14502.975 IDR / USD	36	—
Indonesian Rupiah	91,700,000	6/11/20	9/11/20	14318.1 IDR / USD	168	—
Japanese Yen	5,258	6/30/20	7/2/20	107.757000 JPY / USD	—	—
Japanese Yen	479,000	5/21/20	8/11/20	107.684500 JPY / USD	—	6
Japanese Yen	479,000	5/21/20	8/11/20	107.641100 JPY / USD	—	7
Mexican Peso	105,400	6/18/20	8/13/20	22.773780 MXN / USD	92	—
Mexican Peso	9,500	5/8/20	8/13/20	23.958400 MXN / USD	—	(12)
New Zealand Dollar	5,460	5/14/20	7/22/20	0.596965 NZD / USD	—	(256)
New Zealand Dollar	7,770	6/19/20	8/4/20	0.6412050 NZD / USD	—	(20)
Norwegian Krone	5,100	6/12/20	7/17/20	9.5804 NOK / USD	4	—
Norwegian Krone	8,100	6/11/20	7/17/20	9.435397 NOK / USD	19	—
Norwegian Krone	6,700	6/10/20	7/17/20	9.2898 NOK / USD	27	—
Norwegian Krone	45,000	6/11/20	9/17/20	9.433372 NOK / USD	104	—
Norwegian Krone	28,500	6/12/20	9/17/20	9.578400 NOK / USD	20	—
Norwegian Krone	37,600	6/10/20	9/17/20	9.287800 NOK / USD	150	—
Polish Zloty	6,800	4/20/20	7/15/20	4.167060 PLN / USD	—	(87)
Pound Sterling	40	6/29/20	7/1/20	1.228900 GBP / USD	—	—
Pound Sterling	55	6/30/20	7/2/20	1.237340 GBP / USD	—	—
Pound Sterling	2,680	6/19/20	7/22/20	1.239896 GBP / USD	11	—
Pound Sterling	6,770	6/19/20	8/28/20	1.240127 GBP / USD	28	—
South African Rand	49,900	6/12/20	8/14/20	17.168680 ZAR / USD	48	—
South African Rand	80,020	5/6/20	8/14/20	18.936700 ZAR / USD	—	(359)
South African Rand	31,300	6/4/20	8/14/20	17.0252000 ZAR / USD	45	—
South African Rand	45,000	6/11/20	8/14/20	17.1182000 ZAR / USD	51	—
South Korean Won	5,350,000	5/21/20	7/13/20	1231.342000 KRW / USD	—	(115)
Foreign currency exchange contracts sold:						
Brazil Real	12,990	6/30/20	7/1/20	5.0644000 USD / BRL	—	(200)
Chilean Peso	2,255,000	6/29/20	7/1/20	804.9000000 USD / CLP	—	(51)
Chilean Peso	4,490,000	6/29/20	7/1/20	768.9000000 USD / CLP	—	(360)
Chilean Peso	2,745,000	6/30/20	7/2/20	818.7200000 USD / CLP	—	(2)
Czech Koruna	120,400	6/29/20	7/2/20	24.4385000 USD / CZK	149	—
Czech Koruna	114,100	6/3/20	7/10/20	24.7104000 USD / CZK	194	—
Euro	0	4/7/20	7/13/20	1.1255150 USD / EUR	—	—
Euro	79	4/9/20	7/13/20	1.123800 USD / EUR	—	—
Euro	229	4/8/20	7/15/20	1.123722 USD / EUR	—	—
Euro	10,440	4/15/20	7/17/20	1.113531 USD / EUR	116	—
Euro	10,440	4/14/20	7/20/20	1.114286 USD / EUR	117	—
Hong Kong Dollar	1,184	4/17/20	7/22/20	7.750430 USD / HKD	—	—
Hungarian Forint	210,000	4/20/20	7/22/20	322.840000 USD / HUF	15	—
Hungarian Forint	1,240,000	4/22/20	7/27/20	323.482000 USD / HUF	95	—
Hungarian Forint	1,500,000	4/22/20	7/28/20	317.300000 USD / HUF	24	—
Indonesian Rupiah	28,700,000	4/23/20	7/29/20	16064.000000 USD / IDR	185	—
Japanese Yen	28,332	4/27/20	7/31/20	107.355000 USD / JPY	—	(2)

**OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS
AT JUNE 30, 2020**
CONTINUED
(in thousands)

	Local Currency Amount	Effective Date	Maturity Date	Original Foreign Exchange Rate	Unrealized Appreci- ation (USD)	Unrealized (Depre- ciation) (USD)
Foreign currency exchange contracts sold: — CONTINUED						
Japanese Yen	958,000	4/30/20	8/4/20	106.676000 USD / JPY	—	(96)
Mexican Peso	104,000	5/6/20	8/7/20	23.217120 USD / MXN	—	(4)
Mexican Peso	60,900	5/5/20	8/7/20	23.157350 USD / MXN	—	(9)
New Zealand Dollar	5,460	5/4/20	8/11/20	0.603715 USD / NZD	219	—
New Zealand Dollar	11,140	5/21/20	8/13/20	0.613575 USD / NZD	337	—
Norwegian Krone	19,900	6/30/20	8/13/20	10.538300 USD / NOK	175	—
Norwegian Krone	111,100	5/22/20	8/14/20	9.537200 USD / NOK	—	(129)
Polish Zloty	12,800	5/21/20	8/26/20	4.192800 USD / PLN	183	—
Polish Zloty	14,390	5/21/20	8/26/20	4.195650 USD / PLN	208	—
Pound Sterling	2,680	5/26/20	8/28/20	1.247015 USD / GBP	—	(30)
Pound Sterling	7,490	6/10/20	8/28/20	1.276752 USD / GBP	—	(305)
Pound Sterling	9,740	6/9/20	9/2/20	1.259005 USD / GBP	—	(223)
Russian Ruble	84,000	5/29/20	9/2/20	75.326000 USD / RUB	60	—
South African Rand	81,500	6/3/20	9/8/20	17.837500 USD / ZAR	100	—
South Korean Won	630	6/10/20	9/15/20	1206.300000 USD / KRW	3	—
South Korean Won	7,320,000	6/16/20	9/15/20	1211.330000 USD / KRW	60	—
South Korean Won	2,220,000	6/9/20	9/15/20	1228.700000 USD / KRW	43	—
South Korean Won	2,950,000	6/2/20	9/17/20	1211.450000 USD / KRW	25	—
South Korean Won	6,480,000	6/23/20	9/25/20	1197.400000 USD / KRW	—	(6)
Totals					\$3,203	\$(2,989)

**OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS
AT JUNE 30, 2019**

(in thousands)

	Local Currency Amount	Effective Date	Maturity Date	Original Foreign Exchange Rate	Unrealized Appreci- ation (USD)	Unrealized (Depre- ciation) (USD)
Foreign currency exchange contracts purchased:						
Australian Dollar	10,510	4/18/19	7/24/19	0.719068 AUD / USD	—	(176)
Australian Dollar	12,190	5/21/19	8/26/19	0.690155 AUD / USD	156	—
Australian Dollar	4,430	6/6/19	8/26/19	0.70029 AUD / USD	12	—
Chilean Peso	1,820,000	4/3/19	7/15/19	666.9 CLP / USD	—	(48)
Chilean Peso	1,520,000	4/4/19	7/15/19	665.890000 CLP / USD	—	(43)
Chilean Peso	3,570,000	4/8/19	8/14/19	663.890000 CLP / USD	—	(116)
Chilean Peso	4,485,000	5/10/19	9/13/19	686.025000 CLP / USD	73	—
Chilean Peso	3,380,000	6/5/19	10/7/19	693.640000 CLP / USD	109	—
Chilean Peso	1,020,000	6/6/19	10/7/19	691.595000 CLP / USD	28	—
Czech Koruna	104,400	6/25/19	9/26/19	22.348200 CZK / USD	7	—
Czech Koruna	55,500	6/26/19	9/26/19	22.365500 CZK / USD	6	—
Danish Krone	712	6/27/19	7/1/19	6.5646600 DKK / USD	—	—
Danish Krone	216	6/28/19	7/2/19	6.567510 DKK / USD	—	—
Euro	13,510	6/7/19	9/12/19	1.142480 EUR / USD	38	—
Euro	1	6/27/19	7/1/19	1.136670 EUR / USD	—	—
Indonesian Rupiah	47,600,000	4/23/19	7/25/19	14263.5 IDR / USD	25	—
Japanese Yen	51,297	6/24/19	7/1/19	107.226833 JPY / USD	—	(2)
Japanese Yen	542	6/26/19	7/1/19	107.619000 JPY / USD	—	—
Japanese Yen	137	6/27/19	7/2/19	107.787000 JPY / USD	—	—
Japanese Yen	7,492	6/28/19	7/3/19	107.661600 JPY / USD	—	—
New Zealand Dollar	10,730	6/25/19	8/27/19	0.665395 NZD / USD	75	—
New Zealand Dollar	10,720	6/25/19	9/25/19	0.6656950 NZD / USD	75	—
Norwegian Krone	13,600	4/23/19	7/26/19	8.52565 NOK / USD	1	—
Norwegian Krone	73,700	5/20/19	8/23/19	8.75155 NOK / USD	236	—
Norwegian Krone	56,900	5/24/19	8/28/19	8.68507 NOK / USD	134	—
Norwegian Krone	71,800	5/28/19	8/28/19	8.6571 NOK / USD	142	—
Norwegian Krone	73,700	6/19/19	9/24/19	8.707900 NOK / USD	200	—

**OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS
AT JUNE 30, 2019**
CONTINUED
(in thousands)

	Local Currency Amount	Effective Date	Maturity Date	Original Foreign Exchange Rate	Unrealized Appreci- ation (USD)	Unrealized (Depre- ciation) (USD)
Pound Sterling	14,410	6/12/19	9/20/19	1.274060 GBP / USD	45	—
Pound Sterling	69	6/28/19	7/2/19	1.269840 GBP / USD	—	—
Russian Ruble	222,000	5/7/19	8/13/19	66.032500 RUB / USD	136	—
Russian Ruble	76,000	6/5/19	8/13/19	65.676000 RUB / USD	40	—
South African Rand	23,900	6/13/19	8/14/19	14.995400 ZAR / USD	92	—
South African Rand	11,200	6/14/19	8/14/19	14.903400 ZAR / USD	39	—
South African Rand	16,100	6/18/19	8/14/19	14.6189000 ZAR / USD	34	—
South Korean Won	16,420,000	6/25/19	9/27/19	1150.530000 KRW / USD	—	(52)
Swedish Krona	93,400	5/13/19	8/16/19	9.550800 SEK / USD	321	—
Swedish Krona	182,100	6/11/19	9/17/19	9.376750 SEK / USD	314	—
Swiss Franc	9	6/28/19	7/2/19	0.97645 CHF / USD	—	—
Foreign currency exchange contracts sold:						
Euro	141	6/27/19	7/1/19	1.1388000 USD / EUR	—	—
Euro	52	6/28/19	7/2/19	1.138800 USD / EUR	—	—
Japanese Yen	11	6/26/19	7/1/19	0.009282 USD / JPY	—	—
Japanese Yen	13	6/26/19	7/1/19	0.009282 USD / JPY	—	—
Japanese Yen	13	6/27/19	7/2/19	0.009282 USD / JPY	—	—
Japanese Yen	22	6/28/19	7/3/19	0.009282 USD / JPY	—	—
Pound Sterling	76	6/27/19	7/1/19	1.272700 USD / GBP	—	—
Pound Sterling	48	6/27/19	7/1/19	1.272700 USD / GBP	—	—
Pound Sterling	103	6/28/19	7/2/19	1.272700 USD / GBP	—	—
South African Rand	5,471	5/10/19	8/14/19	0.070537 USD / ZAR	—	(66)
South African Rand	4,155	6/5/19	8/14/19	0.070537 USD / ZAR	—	(211)
South African Rand	5,291	6/6/19	8/14/19	0.070537 USD / ZAR	—	(317)
South African Rand	4,021	6/13/19	9/11/19	0.070289 USD / ZAR	—	(232)
Swiss Franc	219	6/27/19	7/1/19	1.025641 USD / CHF	—	—
Swiss Franc	206	6/28/19	7/2/19	1.025641 USD / CHF	—	—
Totals					\$2,338	\$(1,263)

NOTE 4 — FAIR VALUE MEASUREMENTS OF INVESTMENTS

In accordance with GASB 72, except for investments measured using NAV as a practical expedient to estimate fair value, the System categorizes the fair value measurements of its investments within the fair value hierarchy established by U.S. GAAP. The fair value hierarchy categorizes the inputs to valuation techniques used for fair value measurement into three levels as follows:

- Level 1 – Inputs that reflect quoted prices (unadjusted) in active markets for identical assets or liabilities that the fund has the ability to access at the measurement date. Most of the System's directly held marketable equity securities would be examples of Level 1 investments.
- Level 2 – Inputs other than quoted prices that are observable for an asset of liability either directly or indirectly, including inputs in markets that are not considered to be active. Because they must often be priced on the basis of transactions involving similar but not identical securities or do not trade with sufficient frequency, certain directly held fixed income securities are categorized in Level 2.
- Level 3 – Unobservable inputs based on the best information available, using assumptions in determining the fair value of investments and derivative financial instruments. The System had no level 3 investments as of June 30, 2019 and 2018.

Investments are reported at fair value and categorized within the fair value hierarchy established by generally accepted accounting principles. 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) and the lowest priority to unobservable inputs (level 3).

- 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.

Investments that are measured at fair value using the net asset value (NAV) as a practical expedient are not classified in the fair value hierarchy. At June 30, 2020 and 2019 the System had no plans or intentions to sell investments at amounts different from NAV.

The categorization of investments within the hierarchy is based on the pricing transparency of the investment and should not be perceived as the particular investment's risk.

Following is a summary of investments as of June 30, 2020 and 2019.

		June 30, 2020					
		Fair Value Measurements Using				(in thousands)	
Investments at Fair Value	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Net Asset Value (NAV)	Unfunded Commitments	
Fixed Income:							
U.S. Government Obligations (1)	244,679	215,618	29,061	—	—	—	
Domestic Fixed Income (2)	918,716	—	918,716	—	—	—	
Commingled Funds (3)	804,635	—	—	—	804,635	—	
International Fixed Income (4)	98,812	—	98,812	—	—	—	
Equity:							
Domestic Equity Securities	2,780,009	2,776,347	3,662	—	—	—	
Commingled Funds (5)	688,796	—	—	—	688,796	—	
International Equity Securities	598,607	598,607	—	—	—	—	
Real Estate:							
Real Estate Funds (6)	967,354	—	—	—	967,354	175,924	
Alternative Investments:							
Private Equity (7)	1,151,883	—	—	—	1,151,883	495,544	
Private Debt (8)	572,721	—	—	—	572,721	216,143	
Total Investments	\$8,826,212	\$3,590,572	\$1,050,251	\$—	\$4,185,389	\$887,611	

The System has \$199.4M of investments reported at amortized cost in accordance with GASB Statement No. 79. These investments are not subject to any limitations or restrictions on withdrawals.

- (1) Fiscal 2020 rates range from 0.125% to 5.490%, and maturities from 2021 to 2050.
- (2) Fiscal 2020 rates range from 0.00% to 9.250%, and maturities from 2021 to 2069.
- (3) This represents investments in four commingled fixed income funds that invest globally in both developed and emerging markets with investments consisting primarily of corporate bonds (investment grade and high yield), sovereign bonds and securitized bonds. These funds may also invest in convertible bonds and currencies. The redemption frequency for these investments range from daily to monthly with one to 30 business days' prior written notice.
- (4) Fiscal 2020 rates range from 1.00% to 10.000%, and maturities from 2021 to 2050.
- (5) This represents investments in four commingled equity funds that invest primarily in common stock of companies located outside the U.S., including emerging markets. These investments have daily liquidity and require up to 10 business days' notice for redemption.
- (6) This represents investments in 57 real estate vehicles consisting of 12 strategic open-end funds and 46 tactical non-core investments. Redemption from the open-end funds can be requested on a quarterly basis with 45–90 days' notice periods. The tactical non-core investments are not redeemable. NHRS has no direct property investments as of June 30, 2020.
- (7) This represents 39 investments in private partnerships focused primarily on the following strategies: buyouts, growth equity, secondaries and energy. These private partnerships typically have 10 to 15 year life cycles during which limited partners are unable to redeem their positions, but instead, receive distributions as the partnerships liquidate their underlying assets.
- (8) This represents 24 investments in private partnerships focused primarily on the following strategies: direct lending, mezzanine and distressed debt. These private partnerships typically have 6 to 10 year life cycles during which limited partners are unable to redeem their positions, but instead, receive distributions from coupon payments and/or as the partnerships liquidate their underlying asset.

June 30, 2019						
Fair Value Measurements Using					(in thousands)	
Investments at Fair Value	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Net Asset Value (NAV)	Unfunded Commitments
Fixed Income:						
U.S. Government Obligations (1)	433,371	405,676	27,695	—	—	—
Domestic Fixed Income (2)	680,297	9,119	671,178	—	—	—
Commingled Funds (3)	802,595	—	—	—	802,595	—
International Fixed Income (4)	188,034	—	188,034	—	—	—
Equity:						
Domestic Equity Securities	2,800,997	2,797,826	3,171	—	—	—
Commingled Funds (5)	686,517	—	—	—	686,517	—
International Equity Securities	713,707	713,707	—	—	—	—
Real Estate:						
Real Estate Funds (6)	923,712	—	—	—	923,712	217,867
Alternative Investments:						
Private Equity (7)	1,098,494	—	—	—	1,098,494	625,737
Private Debt (8)	566,795	—	—	—	566,795	240,759
Total Investments	\$8,894,519	\$3,926,328	\$890,078	\$ —	\$4,078,113	\$1,084,363

The System has \$196.5M of investments reported at amortized cost in accordance with GASB Statement No. 79. These investments are not subject to any limitations or restrictions on withdrawals.

(1) Fiscal 2019 rates range from 0.125% to 6.000%, and maturities from 2019 to 2049.

(2) Fiscal 2019 rates range from 0.00% to 10.000%, and maturities from 2019 to 2066.

(3) This represents investments in four commingled fixed income funds that invest globally in both developed and emerging markets with investments consisting primarily of corporate bonds (investment grade and high yield), sovereign bonds and securitized bonds. These funds may also invest in convertible bonds and currencies. The redemption frequency for these investments range from daily to monthly with one to 30 business days' prior written notice.

(4) Fiscal 2019 rates range from 0.750% to 10.000%, and maturities from 2019 to 2049.

(5) This represents investments in four commingled equity funds that invest primarily in common stock of companies located outside the U.S., including emerging markets. These investments have daily liquidity and require up to 10 business days' notice for redemption.

(6) This represents investments in 58 real estate vehicles consisting of 12 strategic open-end funds and 46 tactical non-core investments. Redemption from the open-end funds can be requested on a quarterly basis with 45–90 days' notice periods. The tactical non-core investments are not redeemable. NHRS has no direct property investments as of June 30, 2019.

(7) This represents 37 investments in private partnerships focused primarily on the following strategies: buyouts, growth equity, secondaries and energy. These private partnerships typically have 10 to 15 year life cycles during which limited partners are unable to redeem their positions, but instead, receive distributions as the partnerships liquidate their underlying assets.

(8) This represents 24 investments in private partnerships focused primarily on the following strategies: direct lending, mezzanine and distressed debt. These private partnerships typically have 6 to 10 year life cycles during which limited partners are unable to redeem their positions, but instead, receive distributions from coupon payments and/or as the partnerships liquidate their underlying asset.

NOTE 5 — NET LIABILITY OF EMPLOYERS — PENSION AND OPEB PLANS

PENSION

The net pension liability of employers as of June 30 is shown below:

SCHEDULE OF NET PENSION LIABILITY OF EMPLOYERS					(\$ in thousands)
Fiscal Year Ended	(a) Total Pension Liability	(b) Plan Net Position	(c) Net Pension Liability (a–b)	(d) Plan Net Position as a % of Total Pension Liability (b/a)	
6/30/2020	\$15,493,515	\$9,097,364	\$6,396,151	58.7%	
6/30/2019	\$13,982,427	\$9,170,773	\$4,811,655	65.6%	

ACTUARIAL ASSUMPTIONS

The total pension liability as of June 30, 2020 is based on an actuarial valuation performed as of June 30, 2019 rolled forward to June 30, 2020, utilizing procedures incorporating the actuarial assumptions.

A single discount rate of 6.75% was used to measure the total pension liability; however the single discount rate used at the beginning of the year was 7.25%. This single discount rate was based on the expected rate of return on pension plan investments of 6.75% (7.25% at the beginning of the year), which is not reported net of the inflation assumption used to obtain the real weighted returns shown on pg. 45. The projection of cash flows used to determine this single discount rate assumed that employer contributions will be made under the current statute RSA 100-A:16 and that plan member

contributions will be made under RSA 100-A:16. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments to 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.

The following table provides the sensitivity of the net pension liability to changes in the discount rate. In particular, the table presents the plan's net pension liability, if it were calculated using a single discount rate that is one-percentage-point lower or one-percentage-point higher than the single discount rate:

SENSITIVITY OF THE NET PENSION LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION

(\$ in thousands)

Fiscal Year Ended	1% Decrease to 5.75% for FY 20 and 6.25% for FY 19	Current Single Rate Assumption of 6.75% for FY 20 and 7.25% for FY 19	1% Increase to 7.75% for FY 20 and 8.25% for FY 19
6/30/2020	\$8,280,413	\$6,396,151	\$4,856,460
6/30/2019	\$6,443,004	\$4,811,655	\$3,463,357

The June 30, 2019 actuarial valuation rolled forward to June 30, 2020 used the following actuarial assumptions:

Actuarial Cost Method	Entry age normal
Price Inflation	2.0%
Wage Inflation	2.75%
Salary Increases	5.6% average, including inflation for both years
Investment Rate of Return	6.75%, net of investment expenses, including inflation for both years
Retirement Age	Experience-based table of rates that is specific to the type of eligibility condition updated per each experience study completed.
Mortality	Pub-2010 Healthy Retiree Mortality Tables with credibility adjustments for each group (Police and Fire combined) and projected fully generational mortality improvements using Scale MP-2019

The actuarial assumptions used in the June 30, 2019 valuation to calculate the total pension liability as of June 30, 2020 were based on the results of an actuarial experience study for the period from July 1, 2015 to June 30, 2019. The following assumptions were changed in the current year:

- Reduced the assumed rate of investment return from 7.25% to 6.75%
- Reduced wage inflation from 3.25% to 2.75% (2.25% for teachers)
- Reduced price inflation from 2.5% to 2.0%
- Updated demographic assumptions, including merit and longevity salary increases, disability rates, retirement rates, and mortality tables (specifically the new public pension plan mortality tables).

BENEFIT CHANGES:

Ch 340 laws of 2019 (HB 616) grants a one-time, 1.5% COLA on the first \$50,000 of an annual pension benefit to members who retired on or before July 1, 2014, or any beneficiaries of such member who is receiving a survivorship pension benefit. The COLA will take effect on the retired member's first anniversary date of retirement occurring after July 1, 2020. The adjustment shall become a permanent addition to the member's base retirement allowance. The impact of this change resulted in a \$69.4 million increase in the total pension liability.

OPEB

The net OPEB liability of employers as of June 30, 2020 and 2019 is shown below:

SCHEDULE OF NET OPEB LIABILITY OF EMPLOYERS (\$ in thousands)

Fiscal Year Ended	(a) Total OPEB Liability	(b) Plan Net Position	(c) Net OPEB Liability (a-b)	(d) Plan Net Position as a % of Total Pension Liability (b/a)
6/30/20	\$474,420	\$36,711	\$437,709	7.8%
6/30/19	\$475,254	\$36,843	\$438,411	7.8%

ACTUARIAL ASSUMPTIONS

The total OPEB liability as of June 30, 2020 is based on an actuarial valuation performed as of June 30, 2019 rolled forward to June 30, 2020, utilizing procedures incorporating the actuarial assumptions.

A single discount rate of 6.75% was used to measure the total OPEB liability; however the single discount rate used at the beginning of the year was 7.25%. This single discount rate was based on the expected rate of return on OPEB plan investments of 6.75% (7.25% at the beginning of the year), which is not reported net of the inflation assumption used to obtain the real weighted returns shown on pg. 45. The projections of cash flows used to determine this single discount rate assumed that employer contributions will be made under the current statutes RSA 100-A:16 and 100-A:53. Based on this assumption, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments to current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all period of projected benefit payments to determine the total OPEB liability.

The following table provides the sensitivity of the net OPEB liability to changes in the discount rate. In particular, the table presents the plan's net OPEB liability, if it were calculated using a single discount rate that is one-percentage point lower or one-percentage point higher than the single discount rate.

Actuarial Cost Method	Entry age normal
Price Inflation	2.0%
Wage Inflation	2.75%
Salary Increases	5.6% average, including inflation during both years
Investment Rate of Return	6.75% net of investment expenses, including inflation for both years
Retirement Age	Experience-based table of rates that is specific to the type of eligibility condition updated per each experience study completed.
Mortality	Pub-2010 Healthy Retiree Mortality Tables with credibility adjustments for each group (Police and Fire combined) and projected fully generational mortality improvements using Scale MP-2019
Health Care Trend Rates	N/A — Benefits are fixed stipends
Aging Factors	N/A — Benefits are fixed stipends

The actuarial assumptions used in the June 30, 2019 valuation to calculate the total OPEB liability as of June 30, 2020 were based on the results of an actuarial experience study for the period from July 1, 2015 to June 30, 2019. The following assumptions were changed in the current year:

- Reduced the assumed rate of investment return from 7.25% to 6.75%
- Reduced wage inflation from 3.25% to 2.75% (2.25% for teachers)
- Reduced price inflation from 2.5% to 2.0%
- Updated demographic assumptions, including merit and longevity salary increases, disability rates, retirement rates, and mortality tables (specifically the new public pension plan mortality tables).
- Increased the medical subsidy margin for teachers from 0.20% to 0.50%

GASB 74 requires the sensitivity of the net OPEB liability to the healthcare cost trend assumption. Since the medical subsidy benefits are a fixed stipend, there is no sensitivity to change in the healthcare cost trend assumption.

SENSITIVITY OF THE NET OPEB LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION

(\$ in thousands)

Fiscal Year Ended	1% Decrease to 5.75% for FY 20 and 6.25% for FY 19	Current Single Rate Assumption of 6.75% for FY 20 and 7.25% for FY 19	1% Increase to 7.75% for FY 20 and 8.25% for FY 19
6/30/20	\$475,306	\$437,709	\$405,067
6/30/19	\$475,523	\$438,411	\$406,163

The asset allocation is recommended by the Independent Investment Committee and approved by the Board of Trustees. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a fully funded status for the benefits provided. The following table displays the approved asset allocation for 2020 and the geometric real rates of return for each asset class:

LONG-TERM EXPECTED REAL RATE OF RETURN

Asset Class	Target Allocation	Weighted Average Long-Term Expected Real Rate of Return*
		2020
Large Cap Equities	22.50%	3.71%
Small/Mid Cap Equities	7.50%	4.15%
Total Domestic Equity	30.00%	
Int'l Equities (unhedged)	13.00%	3.96%
Emerging Int'l Equities	7.00%	6.20%
Total International Equity	20.00%	
Core Bonds	9.00%	0.42%
Global Multi-Sector Fixed Income	10.00%	1.66%
Absolute Return Fixed Income	6.00%	0.92%
Total Fixed Income	25.00%	
Private Equity	10.00%	7.71%
Private Debt	5.00%	4.81%
Total Alternative Investments	15.00%	
Real Estate	10.00%	2.95%
TOTAL	100.00%	

*Real rates of return are presented net of 3.00% inflation.

NOTE 6—CONTRIBUTIONS**PENSION PLAN**

As a condition of participation, members are required to contribute a set percentage of their salary to the Pension Plan. The percentage rates, as outlined below, are set by statute under RSA 100-A:16 and depend on the member's group affiliation.

RSA 100-A:16 outlines the employer contributions made to the Pension Plan. Employer contributions to the Pension Plan since fiscal year 2007 have been determined on an actuarial basis using the entry age normal cost method.

The annual covered payroll for the year ended June 30, 2020 is \$2,894.7 million and the annual covered payroll for the fiscal year ended June 30, 2019 was \$2,825.0 million.

The following tables show the percentages of gross payroll contributed by the State, other contributing employers, and members to the pension plan and the OPEB plan.

TOTAL CONTRIBUTION RATES — PENSION PLAN

Member Category	Member Normal Share	(FY 2020)			Member Normal Share	(FY 2019)		
		State	Employer Normal Share Local	Total		State	Employer Normal Share Local	Total
Employees								
State	7.00%	10.88%	—	10.88%	7.00%	11.08%	—	11.08%
Local	7.00%	—	10.88%	10.88%	7.00%	—	11.08%	11.08%
Teachers	7.00%	—	15.99%	15.99%	7.00%	—	15.70%	15.70%
Police Officers								
State	11.55%	24.77%	—	24.77%	11.55%	25.33%	—	25.33%
Local	11.55%	—	24.77%	24.77%	11.55%	—	25.33%	25.33%
Firefighters								
State	11.80%	26.43%	—	26.43%	11.80%	27.79%	—	27.79%
Local	11.80%	—	26.43%	26.43%	11.80%	—	27.79%	27.79%

OPEB PLAN

In accordance with RSA 100-A:53, RSA 100-A:53-b, RSA 100-A:53-c and RSA 100-A:53-d, benefits are provided by a 401(h) subtrust of the Pension Plan.

The OPEB Plan is funded by allocating to the 401(h) subtrust the lesser of:

- 25% of all employer contributions made in accordance with RSA 100-A:16; or
- the percentage of employer contributions determined by the actuary to be the minimum rate necessary to maintain the benefits provided under RSA 100-A:53, RSA 100-A:53-b, RSA 100-A:53-c and RSA 100-A:53-d.

For fiscal year 2020 and 2019, the minimum rates determined by the actuary to maintain benefits were the lesser of the two options and were used to determine the employer contributions due to the 401(h) subtrust.

The State Legislature has the authority to establish, amend and discontinue the contribution requirements of the OPEB Plan. Administrative costs are allocated to the OPEB Plan based on estimated staff time.

TOTAL CONTRIBUTION RATES — OPEB PLAN

Member Category	Member Normal Share	(FY 2020)			Member Normal Share	(FY 2019)		
		State	Employer Normal Share Local	Total		State	Employer Normal Share Local	Total
Employees								
State	—	1.05%	—	1.05%	—	1.07%	—	1.07%
Local	—	—	0.29%	0.29%	—	—	0.30%	0.30%
Teachers	—	—	1.81%	1.81%	—	—	1.66%	1.66%
Police Officers								
State	—	3.66%	—	3.66%	—	4.10%	—	4.10%
Local	—	—	3.66%	3.66%	—	—	4.10%	4.10%
Firefighters								
State	—	3.66%	—	3.66%	—	4.10%	—	4.10%
Local	—	—	3.66%	3.66%	—	—	4.10%	4.10%

The following tables show the amounts contributed by participating employers and members and these contributions expressed as a percentage of the respective covered payrolls.

TOTAL AMOUNTS CONTRIBUTED — PENSION AND OPEB PLAN

(in thousands)

Member Category	Member Normal Share**	(FY 2020)			Member Normal Share**	(FY 2019)		
		Pension Plan*	Employer Normal Share OPEB Plan*	Total Contributions		Pension Plan*	Employer Normal Share OPEB Plan*	Total Contributions
Employees	\$ 91,248	\$139,666	\$ 8,219	\$239,133	\$ 89,782	\$138,326	\$ 8,196	\$236,304
Teachers	83,346	187,525	21,217	292,088	81,113	178,461	18,812	278,386
Police Officers	38,647	80,953	11,960	131,560	37,209	80,580	13,055	130,844
Firefighters	16,485	36,573	5,064	58,122	15,891	36,981	5,446	58,318
Total Contributed	\$229,726	\$444,717	\$46,460	\$720,903	\$223,995	\$434,348	\$45,509	\$703,852

*Includes contributions made by both State and local employers

**Includes voluntary member contributions of \$3.8 million in FY 2020 and \$4.6 million in FY 2019.

Amounts shown on the table above exclude contributions classified as "employer other," which are not actuarially determined contributions.

TOTAL AMOUNTS CONTRIBUTED EXPRESSED AS A PERCENTAGE OF COVERED PAYROLL FOR PENSION AND OPEB PLANS

Member Category	Member Normal Share**	(FY 2020)			Member Normal Share**	(FY 2019)		
		Pension Plan*	Employer OPEB Plan*	Normal Share Total Contributions		Pension Plan*	Employer OPEB Plan*	Normal Share Total Contributions
Employees	7.16%	10.96%	0.64%	18.76%	7.21%	11.11%	0.66%	18.98%
Teachers	7.18%	16.15%	1.83%	25.16%	7.14%	15.72%	1.66%	24.51%
Police Officers	11.97%	25.06%	3.70%	40.73%	11.89%	25.74%	4.17%	41.80%
Firefighters	12.10%	26.85%	3.72%	42.66%	12.09%	28.06%	4.14%	44.30%
Total Contributed	7.94%	15.36%	1.60%	24.90%	7.93%	15.37%	1.61%	24.91%

*Includes contributions made by both State and local employers

**Includes voluntary member contributions of \$3.8 million in FY 2020 and \$4.6 million in FY 2019.

Amounts shown on the table above exclude contributions classified as "employer other," which are not actuarially determined contributions.

As a matter of practice, actual contribution rates are determined by the previous valuation. Using the forecast rates delays implementation of the rates proposed by the actuary until the beginning of the subsequent biennium, allowing employers to budget for changes in employer rates. The employer normal contribution rates for fiscal year 2020 was based on the June 30, 2017 actuarial valuation.

NOTE 7 — ADMINISTRATIVE EXPENSES

Certain expenses related to the administration of the Plans are budgeted and approved by the Board of Trustees, and were subject to appropriation biennially by the State Legislature. Total administrative expenses of \$8.5 million and \$7.6 million for June 30, 2020 and 2019, respectively, are included in the accompanying Combining Statements of Changes in Fiduciary Net Position.

Administrative expenses consist primarily of salaries and benefits for 64 full-time and part-time employees, the costs associated with operating and maintaining computer systems, and other administrative costs.

NOTE 8 — CONTINGENT MATTERS

The System may have legal matters or claims that arise from time to time through the normal course of business. However, in the opinion of management and legal counsel, such matters are not expected to have an adverse effect on NHRS's financial status.

NOTE 9 — PENSION RESERVES

In accordance with RSA 100-A:16, all assets are credited between two funds in accordance with the purpose that they are held (in thousands):

Member Annuity Savings Fund — The member annuity savings fund is an accumulation of contributions deducted from the compensation of members. This fund is used to pay the accumulated member contributions in the event that a member withdraws from active service or upon death in service. Upon retirement, these contributions are transferred to the state annuity accumulation fund. The balance in this fund at June 30, 2020 is \$3,354,345.

State Annuity Accumulation Fund — The state annuity accumulation fund is the fund that pays all System benefits other than those payable from the member annuity savings fund. This fund is the accumulation of employer contributions and any amounts transferred from the member annuity savings fund. The balance in this fund at June 30, 2020 is \$5,743,019.

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY AND RELATED RATIOS

(\$ in thousands)

Fiscal Year Ended	June 30, 2020	June 30, 2019	June 30, 2018
Total Pension Liability			
Service Cost	\$ 310,678	\$ 275,380	\$ 269,751
Interest on the Total Pension Liability	994,537	970,599	936,988
Benefit Changes	69,355	—	—
Difference Between Expected and Actual Experience of the Total Pension Liability	198,104	(111,250)	39,112
Assumption Changes	778,434	—	—
Benefit Payments	(816,708)	(780,907)	(741,753)
Refunds	(23,312)	(23,464)	(24,010)
Net Changes in Total Pension Liability	1,511,088	330,358	480,088
Total Pension Liability — Beginning	13,982,427	13,652,069	13,171,981
Total Pension Liability — Ending	\$15,493,515	\$13,982,427	\$13,652,069
Plan Fiduciary Net Position			
Contributions — Employer	\$ 445,021	\$ 434,407	\$ 422,659
Contributions — Member	229,725	223,995	217,572
Pension Plan Net Investment Income	101,039	488,270	717,090
Benefit Payments	(816,708)	(780,907)	(741,753)
Refunds	(23,312)	(23,464)	(24,010)
Pension Plan Administrative Expense	(8,281)	(7,436)	(7,767)
Other Custodial, Professional and Non-Investment Expenses	(893)	(959)	(912)
Net Change in Plan Fiduciary Net Position	(73,409)	333,906	582,879
Plan Fiduciary Net Position — Beginning	9,170,773	8,836,867	8,253,988
Plan Fiduciary Net Position — Ending	\$ 9,097,364	\$ 9,170,773	\$ 8,836,867
Net Pension Liability	\$ 6,396,151	\$ 4,811,654	\$ 4,815,202
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	58.7%	65.6%	64.7%
Covered Payroll	\$ 2,894,708	\$ 2,825,006	\$ 2,752,235
Net Pension Liability as a Percentage of Covered Payroll	221.0%	170.3%	175.0%

Schedule is intended to show information for 10 years. GASB 67 was adopted in 2014, and additional years will be added as they become available.

June 30, 2017	June 30, 2016	June 30, 2015	June 30, 2014
\$ 262,626	\$ 266,379	\$ 243,965	\$ 245,828
906,201	875,247	847,646	815,214
—	—	—	—
(19,047)	18,404	106,715)	—
—	815,023	—	—
(706,304)	(670,360)	(631,312)	(599,476)
(23,408)	(24,233)	(26,345)	(26,120)
420,068	1,280,460	327,239	435,446
12,751,913	11,471,453	11,144,214	10,708,768
\$13,171,981	\$12,751,913	\$11,471,453	\$11,144,214
\$ 366,653	\$ 357,482	\$ 332,294	\$ 328,444
213,061	207,949	204,063	199,033
978,594	61,878	249,806	1,092,586
(706,304)	(670,360)	(631,312)	(599,476)
(23,408)	(24,233)	(26,345)	(26,120)
(7,671)	(7,061)	(7,582)	(7,377)
(1,255)	(1,263)	(1,626)	(1,446)
819,670	(75,608)	119,298	985,644
7,434,318	7,509,926	7,390,628	6,404,984
\$8,253,988	\$ 7,434,318	\$ 7,509,926	\$ 7,390,628
\$4,917,993	\$ 5,317,595	\$ 3,961,527	\$ 3,753,586
62.7%	58.3%	65.5%	66.3%
\$2,667,612	\$ 2,601,404	\$ 2,575,031	\$ 2,507,899
184.4%	204.4%	153.8%	149.7%

SCHEDULE OF EMPLOYER CONTRIBUTIONS — PENSION PLAN

(\$ in thousands)

Fiscal Year Ended	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
6/30/2020	\$445,021	\$445,021	—	\$2,894,708	15.4%
6/30/2019	\$434,407	\$434,407	—	\$2,825,006	15.4%
6/30/2018	\$422,659	\$422,659	—	\$2,752,235	15.4%
6/30/2017	\$366,653	\$366,653	—	\$2,667,612	13.7%
6/30/2016	\$357,482	\$357,482	—	\$2,601,404	13.7%
6/30/2015	\$332,294	\$332,294	—	\$2,575,031	12.9%
6/30/2014	\$328,444	\$328,444	—	\$2,507,899	13.1%
6/30/2013	\$249,836	\$249,836	—	\$2,501,742	10.0%
6/30/2012	\$254,557	\$254,557	—	\$2,487,757	10.2%
6/30/2011	\$274,582	\$274,582	—	\$2,517,779	10.9%

SCHEDULE OF CHANGES IN THE EMPLOYERS' NET OPEB LIABILITY AND RELATED RATIOS

(\$ in thousands)

Fiscal Year Ended	June 30, 2020	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016
Total OPEB Liability					
Service Cost	\$ 740	\$ 857	\$ 984	\$ 1,099	\$ 1,218
Interest on the Total OPEB Liability	32,785	34,197	34,247	35,235	36,542
Benefit Changes	—	—	—	—	—
Difference between expected and actual experience of the Total OPEB Liability	(10,219)	(7,156)	12,667	—	(4,538)
Assumption Changes	22,676	—	—	—	—
Benefit Payments	(46,816)	(47,798)	(49,251)	(50,560)	(51,805)
Refunds	—	—	—	—	—
Net Changes in Total OPEB Liability	(884)	(19,900)	(1,353)	(14,226)	(18,583)
Total OPEB Liability — Beginning	475,254	495,154	496,507	510,733	529,316
Total OPEB Liability — Ending	\$474,420	\$475,254	\$495,154	\$496,507	\$510,733
Plan Fiduciary Net Position					
Contributions — Employer	\$ 46,460	\$ 45,509	\$ 44,194	\$59,197	\$58,174
Contributions — Member	—	—	—	—	—
OPEB Plan Net Investment Income	397	1,981	3,129	4,046	149
Benefit Payments	(46,816)	(47,798)	(49,251)	(50,560)	(51,805)
Refunds	—	—	—	—	—
OPEB Plan Administrative Expense	(169)	(152)	(33)	(32)	(17)
Other custodial, professional and non-investment expenses	(3)	(6)	(4)	(5)	(3)
Net Change in Plan Fiduciary Net Position	(131)	(466)	(1,965)	12,646	6,498
Plan Fiduciary Net Position — Beginning	36,842	37,308	39,273	26,627	20,129
Plan Fiduciary Net Position — Ending	\$ 36,711	\$ 36,842	\$ 37,308	\$39,273	\$26,627
Net OPEB Liability	\$437,709	\$438,411	\$457,846	\$457,234	\$484,106
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	7.8%	7.8%	7.5%	7.9%	5.2%
Covered Payroll*	\$2,894,708	\$2,825,006	\$2,752,235	\$2,667,612	\$2,601,404
Net OPEB Liability as a Percentage of Covered Payroll	15.1%	15.5%	16.7%	17.1%	18.6%

Schedule is intended to show information for 10 years. GASB 74 was adopted in 2017, and additional years will be added as they become available.

*Employers calculate and remit contributions to the OPEB plan based on the covered payroll of the pension plan, even though not all employees in the covered payroll presented are provided with OPEB through the OPEB plan.

SCHEDULE OF EMPLOYER CONTRIBUTIONS — OPEB PLAN

(\$ in thousands)

Fiscal Year Ended	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
6/30/20	\$46,460	\$46,460	—	\$2,894,708	1.6%
6/30/19	\$45,509	\$45,509	—	\$2,825,006	1.6%
6/30/18	\$44,194	\$44,194	—	\$2,752,235	1.6%
6/30/17	\$59,197	\$59,197	—	\$2,667,612	2.2%
6/30/16	\$58,174	\$58,174	—	\$2,601,404	2.2%
6/30/15	\$48,915	\$48,915	—	\$2,575,031	1.9%
6/30/14	\$48,881	\$48,881	—	\$2,507,899	1.9%
6/30/13	\$49,712	\$49,712	—	\$2,501,742	2.0%
6/30/12	\$48,964	\$48,964	—	\$2,487,757	2.0%
6/30/11	\$32,901	\$32,560	—	\$2,517,779	1.3%

SCHEDULE OF INVESTMENT RETURNS

Fiscal Year Ended	Annual Money Weighted Rate of Return — Net of Investment Expenses
6/30/2020	1.2%
6/30/2019	5.7%
6/30/2018	8.9%
6/30/2017	13.4%
6/30/2016	0.9%
6/30/2015	3.4%

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

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION — LAST TEN FISCAL YEARS**ACTUARIAL ASSUMPTIONS AND METHODS USED IN DETERMINING CONTRIBUTION RATES**

Actuarially determined contribution rates are calculated by the system's actuary and certified by the Board of Trustees biennially. Contribution rates for FY 2020 were determined by the System's actuary based on the June 30, 2017 actuarial valuation. During FY 2020, an experience study was conducted covering the period from July 1, 2015 through June 30, 2019, which was then used to update the actuarial assumptions used in the June 30, 2019 actuarial valuation. The contribution rates determined by this actuarial valuation do not go into effect until FY 2022. Significant actuarial assumptions and methods used to determine the FY 2020 contribution rates for both the Pension and OPEB plan are described below:

PENSION PLAN

- **Actuarial Cost Method** Entry Age Normal
- **Amortization Method** Level percentage of payroll, closed
- **Remaining Amortization** 20 years beginning July 1, 2019 (30 years beginning July 1, 2009)
- **Asset Valuation Method** Five-year smoothed market, 20% corridor
- **Payroll Growth** 3.25%
- **Price Inflation** 2.50%
- **Salary Increase** 5.6% average, including price inflation
- **Investment Rate of Return** 7.25%, net of pension plan investment expenses, including inflation
- **Mortality** RP 2014 Healthy Annuitant and Employee generational mortality tables for males and females with credibility adjustments, adjusted for fully generational mortality improvements using Scale MP-2015, based on the last experience study

OPEB PLAN

- **Actuarial Cost Method** Entry Age Normal
- **Amortization Method** Level percentage of payroll, closed
- **Asset Valuation Method** Five-year smoothed market, 20% corridor
- **Payroll Growth** 3.25%
- **Price Inflation** 2.50%
- **Salary Increase** 5.6% average, including price inflation
- **Investment Rate of Return** 7.25% per year, net of OPEB plan investment expense, including inflation for determining solvency contributions
- **Funding Discount Rate** 3.25% per year
- **Mortality** RP 2014 Healthy Annuitant and Employee generational mortality tables for males and females with credibility adjustments, adjusted for fully generational mortality improvements using Scale MP-2015, based on the last experience study

CHANGES OF BENEFIT TERMS

Ch 340 laws of 2019 (HB 616), grants a one-time, 1.5% COLA on the first \$50,000 of an annual pension benefit to members who retired on or before July 1, 2014, or any beneficiaries of such member who is receiving a survivorship pension benefit. The COLA will take effect on the retired member's first anniversary date of retirement occurring after July 1, 2020. The adjustment shall become a permanent addition to the member's base retirement allowance. The impact of this change resulted in a \$69.4 million increase in the total pension liability.

CHANGES OF ASSUMPTIONS

An actuarial review, commonly called an experience study, of the mortality, service, withdrawals, and compensation experience of members is required by statute at least once during each five-year period.

Assumption changes adopted as a result of the 2015 experience study are:

Economic Assumptions:

- The assumed investment rate of return was reduced from 7.75% to 7.25%
- The wage inflation rate was reduced from 3.75% to 3.25%
- The price inflation assumption was reduced from 3.00% to 2.50%

Demographic Assumptions were changed in the following categories:

- Rates of Disability
- Rates of Retirement
- Rates of Withdrawal
- Mortality

The full experience study results can be viewed at www.nhrs.org/docs/default-source/actuarial/july-1-2010---june-30-2015-experience-study.pdf

2019:

Assumption changes adopted as a results of the 2016–2019 experience study are:

During 2020, the NHRS Board of Trustees modified its actuarial funding policy to better align its actuarial reviews with its biennial valuation cycle, changing the schedule for experience studies to one every four years. The most recent actuarial review was performed during fiscal year 2020 and was based on the information for the four year period ending June 30, 2019. Assumption changes adopted as a result of the 2019 experience study are:

- Reduced the assumed rate of investment return from 7.25% to 6.75%
- Reduced wage inflation from 3.25% to 2.75% (2.25% for teachers)
- Reduced price inflation from 2.5% to 2.0%
- Updated demographic assumptions, including merit and longevity salary increases, disability rates, retirement rates, and mortality tables (specifically the new public pension plan mortality tables).
- Increased the medical subsidy margin for teachers from 0.20% to 0.50%

The full experience study results can be viewed at www.nhrs.org/docs/default-source/actuarial/july-1-2015---june-30-2019-experience-study.pdf

SUPPORTING
SCHEDULES**INVESTMENT ACTIVITY FEES AND
OTHER INVESTMENT RELATED EXPENSES**

(in thousands)

	YEAR ENDED JUNE 30	
	2020	2019
INVESTMENT ACTIVITY FEES:		
Equity Investments:		
Domestic	\$ 7,868	\$ 7,687
Non-U.S.	8,855	9,629
Fixed Income Investments	6,467	5,390
Real Estate	2,392	2,182
Custodial Fees	650	662
Investment Advisor Fees	750	753
Investment Professional Fees	207	350
Investment Staff Administrative Expense	669	632
TOTAL INVESTMENT ACTIVITY FEES	\$ 27,858	\$ 27,285

INTEREST INCOME

(in thousands)

	YEAR ENDED JUNE 30	
	2020	2019
Fixed Income Investments	\$ 45,588	\$ 56,843
Cash and Cash Equivalents	1,223	5,574
TOTAL INTEREST INCOME	\$ 47,811	\$ 62,417

DIVIDEND INCOME

(in thousands)

	YEAR ENDED JUNE 30	
	2020	2019
Equity Investments:		
Domestic	\$ 48,279	\$ 46,360
Non-U.S.	22,492	27,795
TOTAL DIVIDEND INCOME	\$ 70,771	\$ 74,155

CONTRIBUTIONS	(in thousands)	
	YEAR ENDED JUNE 30	
	2020	2019
CONTRIBUTIONS — PENSION PLAN		
EMPLOYER CONTRIBUTIONS:		
Employees	\$ 139,789	\$ 138,547
Teachers	187,621	178,286
Police Officers	81,012	80,589
Firefighters	36,600	36,981
Other	—	4
TOTAL EMPLOYER CONTRIBUTIONS	\$445,022	\$ 434,407
PLAN MEMBER CONTRIBUTIONS:		
Employees	\$ 91,248	\$ 89,782
Teachers	83,346	81,114
Police Officers	38,647	37,208
Firefighters	16,485	15,891
TOTAL PLAN MEMBER CONTRIBUTIONS	\$ 229,726	\$ 223,995
TOTAL CONTRIBUTIONS — PENSION PLAN	\$ 674,748	\$ 658,402
CONTRIBUTIONS — OPEB PLAN		
EMPLOYER NORMAL:		
OPEB Contributions	\$ 46,459	\$ 45,509
TOTAL CONTRIBUTIONS — OPEB PLAN	\$ 46,459	\$ 45,509
TOTAL CONTRIBUTIONS	\$ 721,207	\$ 703,911
BENEFITS		
(in thousands)		
YEAR ENDED JUNE 30		
	2020	2019
PENSION BENEFITS AND ADDITIONAL ALLOWANCES:		
Employees	\$ 273,442	\$ 260,767
Teachers	321,012	307,924
Police Officers	152,499	145,058
Firefighters	69,755	67,158
TOTAL PENSION BENEFITS AND ADDITIONAL ALLOWANCES	\$ 816,708	\$ 780,907
POSTEMPLOYMENT MEDICAL BENEFITS:		
Group II Police and Fire	\$ 16,643	\$ 16,574
Group I Teachers	19,233	19,801
Group I Political Subdivision Employees	4,725	4,946
Group I State Employees	6,215	6,477
TOTAL POSTEMPLOYMENT MEDICAL BENEFITS	\$ 46,816	\$ 47,798
TOTAL BENEFITS	\$ 863,524	\$ 828,705
REFUNDS OF CONTRIBUTIONS		
(in thousands)		
YEAR ENDED JUNE 30		
	2020	2019
Employees	\$ 12,817	\$ 12,928
Teachers	4,681	5,419
Police Officers	4,652	4,484
Firefighters	1,162	633
TOTAL REFUNDS OF CONTRIBUTIONS	\$ 23,312	\$ 23,464

**ADMINISTRATIVE EXPENSE FOR THE YEARS ENDED
JUNE 30, 2020 AND 2019**

(in thousands)

	2020 EXPENSE	UNAUDITED 2020 BUDGET*	UNAUDITED OVER (UNDER) BUDGET	2019 EXPENSE	UNAUDITED 2019 BUDGET*	UNAUDITED OVER (UNDER) BUDGET
Salaries and Wages	\$ 4,249	\$ 4,249	\$ —	\$ 3,769	\$ 4,563	\$ (794)
Fringe Benefits	2,276	2,246	30	1,969	2,712	(743)
Supplies, Utilities and Postage	261	242	19	309	259	50
Organizational Dues	16	15	1	12	19	(7)
Equipment	7	7	—	5	5	—
Travel — Staff	8	12	(4)	11	64	(53)
Board Expenses	14	14	—	20	39	(19)
Employee Training	28	28	—	33	88	(55)
State Services	19	19	—	25	50	(25)
Office Rents and Expenses	500	500	—	540	580	(40)
Computer Support and System Development	810	2,485	(1,675)	645	1,087	(442)
Consulting	262	145	117	249	234	15
Workers Compensation	—	—	—	—	8	(8)
Unemployment Compensation	1	1	—	—	4	(4)
TOTAL	\$ 8,451	\$ 9,963	\$ (1,513)	\$ 7,588	\$ 9,712	\$(2,124)

*The New Hampshire biennial budget is composed of the initial operating budget and supplemented by additional appropriations. These appropriations are generated by Governor and Council action, annual session laws, and existing statutes which require appropriations under certain circumstances. The budget therefore is a flexible budget. It is a biennial budget which consists of balances brought forward plus current year appropriations, less balances carried forward into the following fiscal year. The balances carried forward into the following fiscal year are composed of encumbrances and non-lapsing appropriations.

PROFESSIONAL FEES

(in thousands)

	YEAR ENDED JUNE 30	
	2020	2019
Legal Fees	\$ 172	\$ 172
Actuarial Fees	227	186
Audit Fees	259	330
TOTAL PROFESSIONAL FEES	\$ 658	\$ 688

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

NEW HAMPSHIRE RETIREMENT SYSTEM

INVESTMENT SECTION

[CLICK HERE TO RETURN TO INDEX](#)

INVESTMENT CONSULTANT'S LETTER



KEVIN M. LEONARD
SENIOR CONSULTANT

October 14, 2020

Board of Trustees
Investment Committee
Executive Director
The New Hampshire Retirement System
54 Regional Drive
Concord, NH 03301-8507

Dear NHRS Fiduciaries:

NEPC, LLC (NEPC) is pleased to introduce this overview of the New Hampshire Retirement System (NHRS) investment program for the fiscal year ended June 30, 2020.

The overall objective of NHRS is to provide service, disability, death and vested retirement benefits, and other postemployment benefits to members and their beneficiaries. To ensure a solid foundation for the future of the System, NHRS plans and implements an investment program designed to achieve the maximum rate of return over the long term, while prudently managing the risk of the portfolio. Additionally, the NHRS investment program is administered in accordance with sound governance practices and applicable statutes. The Board of Trustees (Trustees) established an Investment Policy which includes asset allocation targets and acceptable ranges as well as asset class benchmarks for performance measurement. The Trustees retain the services of actuaries and consultants to provide guidance regarding actuarial matters, asset allocation, and investment policy. The Independent Investment Committee (Committee) manages the investment program pursuant to the investment policy, develops asset class guidelines, monitors and evaluates performance, and makes determinations regarding the retention of managers. Professional investment managers are selected by the Committee to manage portfolios in accordance with investment management agreements. The investment manual includes all investment policies and asset class guidelines and may be obtained from the NHRS website at The following pages report on the performance and attributes of the investment program for fiscal year 2020.

MARKET REVIEW FOR THE YEAR ENDED JUNE 30, 2020

The fiscal year ended 2020 saw the end of the longest economic expansion on record. Economies around the world were disrupted because of COVID-19 and markets reacted with historically fast-paced declines. Governments and central banks from around the world took extraordinary measures to stimulate shuttered economies. In the U.S., fiscal stimulus reached over 12% of GDP while Germany, Japan, France and the U.K. had materially larger stimulus packages. The Federal Reserve provided additional support to the U.S. economy by reducing the Fed Funds Rate to a targeted range of 0.00% -to- 0.25%, resumed quantitative easing, and flooded markets with liquidity. Similar actions were taken by central banks globally. These stimulus measures, along with optimism around a potential vaccine for COVID-19 and easing of lockdown restrictions resulted in a historically dramatic reversal in risk assets in the fourth fiscal quarter. U.S. stocks posted their eleventh consecutive year of positive returns and outperformed international equities, returning 7.5% as measured by the S&P 500 Index. International developed-markets equities returned -5.1% for the year, as measured by the MSCI EAFE Index, lagging domestic equities by 12.6%. U.S. equity outperformance was driven in large part by big technology stocks that benefitted from a demand surge in the wake of the pandemic. Emerging markets equities as measured by the MSCI Emerging Markets Index returned -3.4%, underperforming U.S. equities and outperforming international- developed markets equities. Driven by declining interest rates and demand for safe-haven assets, U.S. high quality fixed income investments generated a positive 8.7% return in the fiscal year as measured by the Bloomberg Barclays U.S. Aggregate Bond Index.

THE NHRS INVESTMENT PORTFOLIO

For the fiscal year ended June 30, 2020, the NHRS Total Fund returned 1.1% on a net-of-fees basis, underperforming the Total Fund custom benchmark return of 4.8% and ranking in the 84th percentile (1% being the highest, 100% being the lowest) relative to other investors in the InvMetrics Public Defined Benefit Net Universe (universe). NHRS's fiscal year fourth quartile relative ranking was impacted by the domestic equity portfolio's value bias, the domestic equity portfolio's

One Main Street | Cambridge, MA 02142 | TEL: 617.374.1300 | www.nepc.com

CAMBRIDGE | ATLANTA | CHARLOTTE | DETROIT | LAS VEGAS | SAN FRANCISCO



small/SMID cap overweight and the fixed income portfolio's underweight to U.S. Treasuries. For the trailing three years ending June 30, 2020, the NHRS Total Fund return of 5.2% ranked in the 71st percentile of the universe. For the trailing five years ending June 30, 2020 the NHRS Total Fund return of 5.9% ranked in the 50th percentile of the universe. During the following periods the NHRS Total Fund provided strong annualized net-of-fees returns relative to the universe: For the trailing ten year period ending June 30, 2020, the NHRS Total Fund returned 8.7% and ranked in the 24th percentile of the universe; For the trailing twenty-five year period ending June 30, 2020, the NHRS Total Fund returned 7.5%, exceeding the current assumed rate of return of 6.75%, and ranked in the 29th percentile of the universe.

During fiscal year 2020, the Committee monitored and executed the structure of the marketable assets portfolio and continued to implement the expansion of the alternative investment portfolio.

NEPC provides NHRS with quarterly economic and investment market updates and performance reviews, investment manager monitoring and selection advice, and related investment services for traditional and non-traditional asset classes. Investment performance analysis and comparisons produced by NEPC have been calculated using standard performance evaluation methodologies and are consistent with industry standards. Performance results are calculated using a time-weighted return methodology and are reported on a net-of-fees basis.

Sincerely,

A handwritten signature in black ink, appearing to be 'L. M. L.', is located below the 'Sincerely,' text. The signature is written in a cursive, flowing style.

INVESTMENT REPORTS

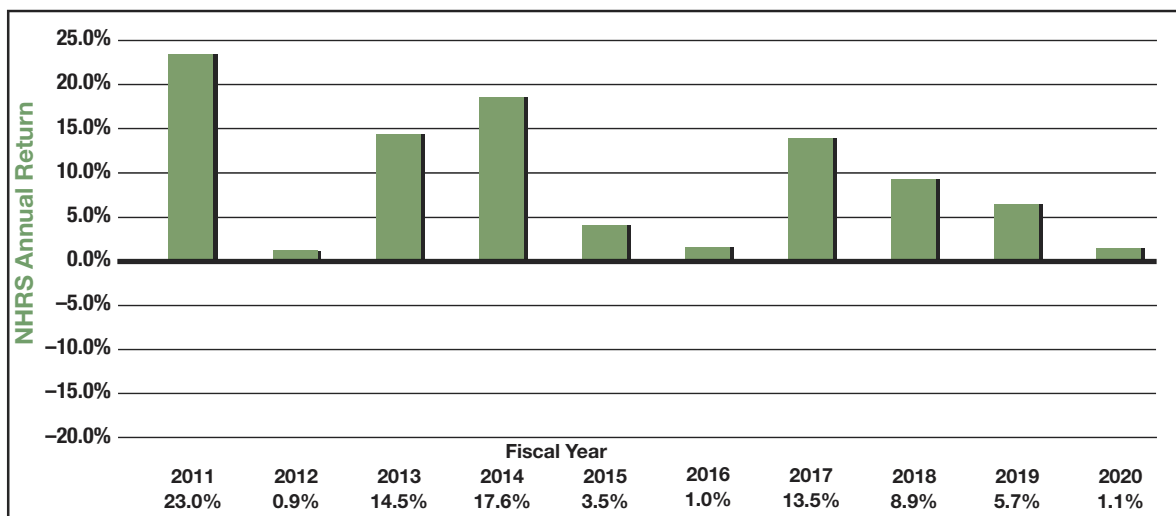
ANNUALIZED INVESTMENT RETURNS—ACTUAL VERSUS INDICES

	Current Year 2020	3 Year	Annualized 5 Year	10 Year
Total NHRS Fund	1.1%	5.2%	5.9%	8.7%
Total Fund Custom Index*	4.8	6.7	6.9	9.3
Domestic Equity	0.4	6.8	7.8	12.3
Total Domestic Equity Blended Benchmark*	7.5	10.7	10.7	14.1
Non-U.S. Equity	-4.9	1.6	3.0	5.7
Total Non-U.S. Equity Blended Benchmark*	-4.8	1.1	2.3	5.0
Fixed Income	6.5	4.3	4.2	4.5
Total Fixed Income Blended Benchmark*	7.9	5.2	4.4	4.1
Real Estate	3.5	7.0	8.7	11.1
Total Real Estate Blended Benchmark*	1.3	4.7	6.3	9.8
Alternative Investments	0.5	6.0	6.5	6.9
Total Alternative Investments Blended Benchmark*	7.1	8.4	8.2	12.1
Cash Equivalents	1.8	1.9	1.3	0.7
90 Day T-Bills	1.3	1.7	1.1	0.6

Performance returns are calculated on a net-of-fees time-weighted rate of return basis.

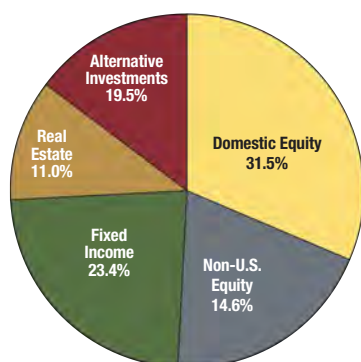
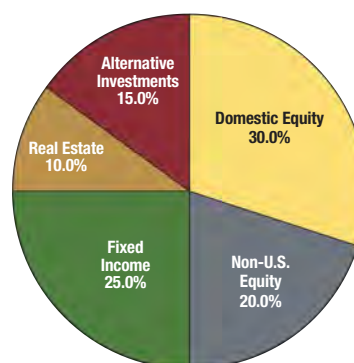
*In a dynamic market, strategies and objectives evolve over time. Consequently, these benchmarks are blended due to historical investment strategy decisions. Detailed descriptions of the benchmarks above are available by contacting NHRS.

Ten Year History of Time-Weighted Total NHRS Fund Annual Returns



ACTUAL ASSET ALLOCATION VERSUS TARGET ASSET ALLOCATION

	Actual %	As of June 30, 2020	
		Target %	Target Range %
Domestic Equity	31.5	30.0%	20 – 40
Non-U.S. Equity	14.6	20.0	15 – 25
Fixed Income	23.4	25.0	20 – 30
Real Estate	11.0	10.0	5 – 20
Alternative Investments	19.5	15.0	5 – 25
TOTAL FUND	100.0%	100.0%	

Actual Asset Allocation as of June 30, 2020**Target Asset Allocation as of June 30, 2020**

TEN LARGEST STOCK HOLDINGS BY FAIR VALUE*

(in thousands)

	Shares	Stock	June 30, 2020 Fair Value
1	483,568	Microsoft Corp.	\$98,411
2	213,543	Apple Inc.	77,900
3	25,413	Amazon.com Inc.	70,110
4	22,013	Alphabet Inc. — CL C	31,118
5	126,029	Facebook Inc.	28,617
6	18,909	Alphabet Inc. — CL A	26,814
7	184,986	Johnson & Johnson	26,015
8	85,423	Mastercard Inc.	25,260
9	56,452	Adobe Inc.	24,574
10	68,717	Roche Holding AG	23,812

TEN LARGEST FIXED INCOME HOLDINGS BY FAIR VALUE*

(in thousands)

	Par**	Security	June 30, 2020 Fair Value
1	21,557,000	U.S. Treasury Bond — 4.500%, 2038	\$34,009
2	16,800,000	U.S. Treasury Bond — 3.500%, 2039	23,768
3	21,534,000	U.S. Treasury Note — 0.375%, 2025	21,632
4	15,120,000	U.S. Treasury Bond — 3.000%, 2048	20,793
5	12,761,000	U.S. Treasury Bond — 4.500%, 2036	19,534
6	14,204,192	U.S. Treasury CPI Inflation — 0.125%, 2024	14,876
7	14,500,000	U.S. Treasury Note — 0.125%, 2022	14,489
8	14,040,000	U.S. Treasury Note — Var Rate, 2022	14,048
9	11,130,000	U.S. Treasury Note — Var Rate, 2022	11,145
10	9,174,000	U.S. Treasury Bond — 2.250%, 2049	11,033

*A complete listing of separate account portfolio holdings is available by contacting the NHRS offices. NHRS also invests in various commingled investment vehicles, for which the underlying investments are custodied outside of The Bank of NY Mellon (Master Custodian for NHRS), as reported on the Summary of Investments schedule.

**Par value is denoted in local currency.

SCHEDULE OF INVESTMENT MANAGEMENT AND SERVICE FEES

	YEAR ENDED JUNE 30, 2020		
	Assets Under Management (in thousands)	Fees (in thousands)	Average Basis Points
INVESTMENT MANAGEMENT FEES			
Equity Portfolios:			
Domestic	\$ 2,780,008	\$ 7,868	28
Non-U.S.	1,287,403	8,855	69
Fixed Income Portfolios	2,066,842	6,467	31
Alternative Investments*	1,724,604	—	—
Real Estate	967,354	2,392	25
Cash and Cash Equivalents**	216,132	—	—
TOTAL INVESTMENT MANAGEMENT FEES	\$ 9,042,343	\$ 25,582	28
INVESTMENT SERVICE FEES			
Custodial Fees	\$ 9,042,343	\$ 650	1
Investment Advisor Fees — External	9,042,343	750	1
Investment Professional Fees	9,042,343	207	1
Investment Administrative Expenses — Internal	9,042,343	669	1
TOTAL INVESTMENT MANAGEMENT AND SERVICE FEES	\$ 9,042,343	\$ 27,858	31

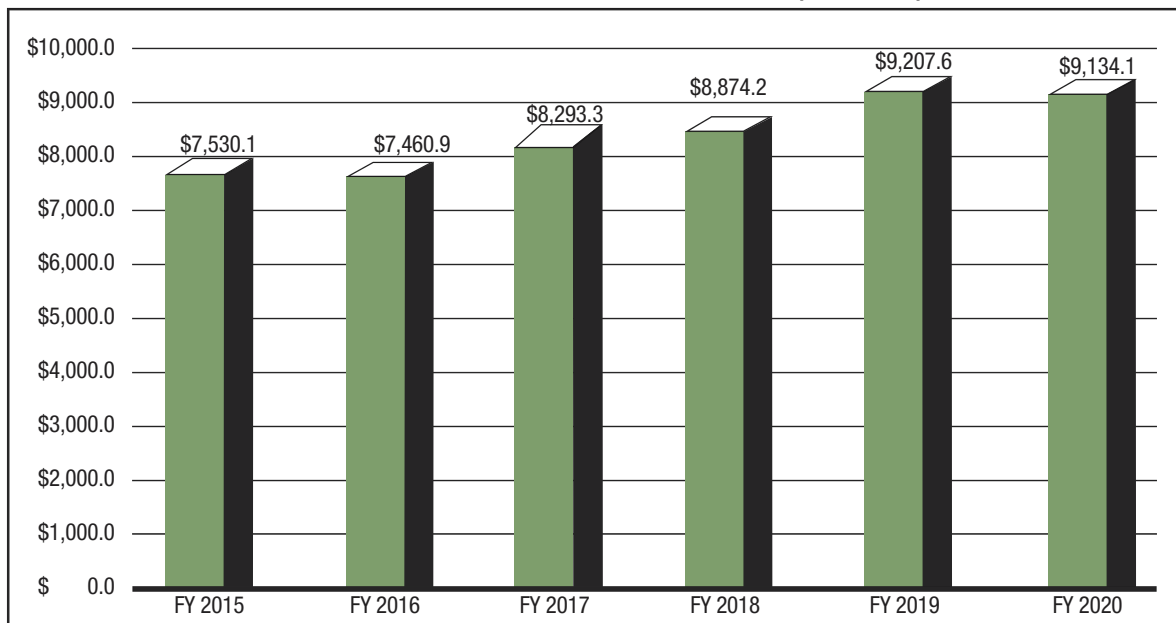
*The custodian records all transactions on a net of fee basis.

SCHEDULE OF BROKERAGE COMMISSIONS PAID

Brokerage Firm	YEAR ENDED JUNE 30, 2020		
	Number of Shares Traded (in thousands)	Total Commissions (in thousands)	Commissions Per Share
J.P. Morgan	22,485	\$ 143	0.01
Goldman Sachs & Company	8,215	131	0.02
Merrill Lynch & Company Inc.	10,292	99	0.01
Credit Suisse	9,553	96	0.01
Morgan Stanley & Company Inc.	4,838	66	0.01
Liquidnet	3,874	64	0.02
UBS Securities/Warburg	6,321	62	0.01
Barclay's Capital Inc.	4,406	60	0.01
Instinet, Inc.	4,367	57	0.01
Bernstein Sanford C & Co, New York	4,323	51	0.01
Cowen and Company LLC	2,916	50	0.02
Jefferies & Company, Inc.	2,722	48	0.02
Citigroup Global Markets Inc.	3,410	47	0.01
Baird, Robert W & Co Inc.	1,060	33	0.03
Pershing Securities LTD	1,297	31	0.02
Electronic Brokerage Systems	1,384	27	0.02
BTIG LLC	1,086	25	0.02
Wells Fargo Securities, LLC.	856	20	0.02
Keefe Bruyette + Woods Inc.	810	18	0.02
All Others (124 not listed separately)	31,562	501	0.02
TOTAL BROKERAGE COMMISSIONS PAID	125,777	\$ 1,629	0.01

Commission detail is not included in the schedule above for the commingled funds in which NHRS invests.

Net Position Restricted for Pension and OPEB (in millions)



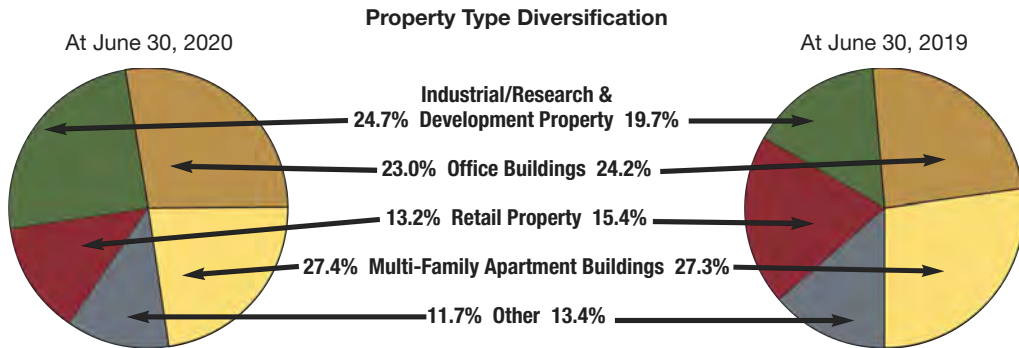
SUMMARY OF INVESTMENTS

TYPE OF INVESTMENT	June 30, 2020	
	Fair Value (in millions)	Percent of Total Fair Value
FIXED INCOME		
Collateralized/Asset Backed Securities	\$ 197.0	2.2%
Corporate Bonds	708.2	8.0%
Government and Agency Bonds	357.0	4.0%
Blackrock Strategic Income Opportunities	241.5	2.7%
Fidelity	358.6	4.1%
Manulife	204.5	2.3%
TOTAL FIXED INCOME	\$2,066.8	23.4%
EQUITY		
Consumer Discretionary	\$ 442.4	5.0%
Consumer Staples	201.4	2.3%
Energy	86.2	1.0%
Financial Services	629.7	7.1%
Health Care	532.2	6.0%
Producer Durables	395.7	4.5%
Information Technology	723.4	8.2%
Materials	211.4	2.4%
Utilities	148.9	1.7%
Ishares Russell 2000 ETF	7.4	0.1%
LSV International Value Fund	254.9	2.9%
Neuberger Berman Emerging Markets Equity Fund	173.2	2.0%
Segall Bryant & Hamill Int'l Small Cap	101.9	1.2%
Wellington Emerging Markets Local Equity Fund	158.7	1.8%
TOTAL EQUITY	\$4,067.4	46.1%
OTHER INVESTMENTS		
Alternative Investments	\$1,724.6	19.5%
Real Estate	967.4	11.0%
TOTAL INVESTMENTS	\$8,826.2	100.0%

REAL ESTATE INVESTMENTS BY TYPE

(in thousands)

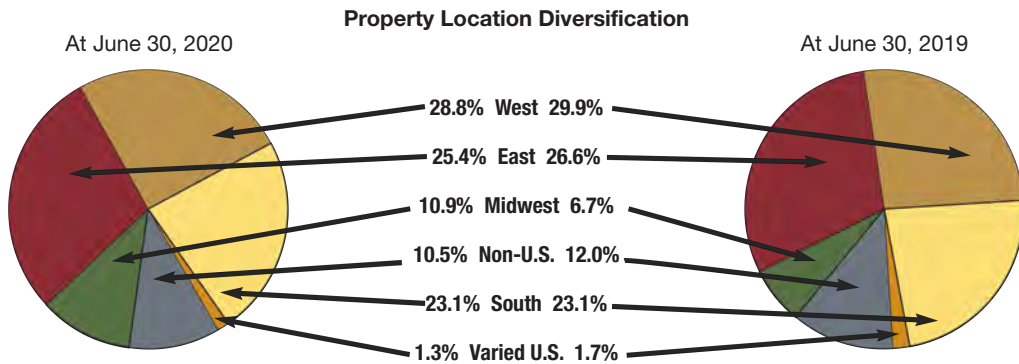
	JUNE 30	
	2020	2019
Office Buildings	\$222,499	\$223,538
Multi-Family Apartment Buildings	265,055	252,174
Retail Property	127,690	142,252
Industrial/Research & Development Property	238,937	181,971
Other	113,180	123,777
TOTAL REAL ESTATE INVESTMENTS BY TYPE	\$967,354	\$923,712



REAL ESTATE INVESTMENTS BY LOCATION

(in thousands)

	JUNE 30	
	2020	2019
West	\$278,598	\$276,190
East	245,708	245,707
South	223,459	213,378
Midwest	105,442	61,889
Varied U.S.	12,575	15,703
Non-U.S.	101,572	110,845
TOTAL REAL ESTATE INVESTMENTS BY LOCATION	\$967,354	\$923,712



ALTERNATIVE INVESTMENTS		(in thousands)
	JUNE 30	
	2020	2019
Growth Equity	\$ 276,062	\$ 281,094
Buyouts	545,490	470,012
Secondaries	225,539	208,456
Mezzanine	6,870	8,124
Distressed	206,964	242,005
Direct Lending Strategies	359,871	317,551
Energy	103,808	138,047
TOTAL ALTERNATIVE INVESTMENTS	\$1,724,604	\$1,665,289
NET APPRECIATION (DEPRECIATION) IN FAIR VALUE OF INVESTMENTS		(in thousands)
	YEAR ENDED JUNE 30	
	2020	2019
Equity Investments:		
Domestic	\$ (30,010)	\$ 107,573
Non-U.S.	(93,813)	17,065
Fixed Income Investments	93,235	89,304
Temporary Investments	250	—
Real Estate	16,637	45,760
Growth Equity	(5,984)	22,023
Buyouts	58,984	45,302
Secondaries	43	20,768
Mezzanine	(574)	(1,334)
Distressed	(31,367)	(403)
Absolute Return Strategies	—	58
Opportunistic	—	(1,632)
Direct Lending	(13,722)	(6,978)
Energy	(48,248)	(7,836)
Venture Capital	—	(15)
TOTAL NET APPRECIATION (DEPRECIATION) IN FAIR VALUE OF INVESTMENTS	\$ (34,834)	\$ 329,655

ALTERNATIVE INVESTMENT INCOME (LOSS) (in thousands)

	YEAR ENDED JUNE 30	
	2020	2019
Distressed	\$ 6,958	\$ 5,864
Secondaries	216	507
Direct Lending	19,643	26,802
Opportunistic	—	94
Energy	444	179
Mezzanine	812	2,128
Buyouts	323	228
Growth Equity	296	1,408
TOTAL ALTERNATIVE INVESTMENT INCOME*	\$ 28,692	\$ 37,210

*Other alternative investment types not listed above had no income (loss) for either of the years reported. For a complete list of alternative investment types see page 70.

REAL ESTATE INVESTMENTS INCOME AND EXPENSES (in thousands)

	NET INCOME YEAR ENDED JUNE 30	
	2020	2019
Office Buildings	\$ 4,074	\$ 3,412
Multi-Family Apartment Buildings	4,596	3,849
Retail Property	2,593	2,171
Industrial/Research & Development Property	3,317	2,778
Hotels	50	42
Other	2,205	1,889
TOTAL	\$ 16,835	\$ 14,099

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

NEW HAMPSHIRE RETIREMENT SYSTEM

ACTUARIAL SECTION

[CLICK HERE TO RETURN TO INDEX](#)

ACTUARIAL CERTIFICATION



800.521.0498 | P: 248.799.9000 | F: 248.799.9020 | www.grsconsulting.com

October 30, 2020

Board of Trustees
New Hampshire Retirement System
54 Regional Drive
Concord, New Hampshire 03301-8509

Attention: Mr. George Lagos, Executive Director

Dear Board Members:

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report. This report should not be relied on for any purpose other than the purposes described below.

The purposes of this report are:

- To provide information in connection with Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" as of June 30, 2020.
- To provide information in connection with Governmental Accounting Standards Board (GASB) Statement No. 74 "Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans" as of June 30, 2020.
- To provide supporting schedules for the Comprehensive Annual Financial Report (CAFR) for the System's use in the Actuarial Section, the Statistical Section, Notes to the Financial Statements and Required Supplementary Information.

The report was based upon information, furnished by the New Hampshire Retirement System (NHRS) staff, concerning Retirement System benefits, financial transactions, active members, terminated members, retirees and beneficiaries as of June 30, 2020. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the data provided by NHRS.

We prepared the following supporting schedules for the Comprehensive Annual Financial Report for the System's use in the Actuarial Section, the Statistical Section, Notes to the Financial Statements and Required Supplementary Information:

- Summary of Actuarial Assumptions and Methods
 - Percent Retiring Within Next Year
 - Probabilities of Becoming Disabled Within Next Year
 - Percent Separating Within Next Year
 - Individual Employee Pay Increases
- Retirees and Beneficiaries Age Distribution
- Active Members by Valuation Division
- Active Members Age and Service Distribution
- Historical Membership Data – Active and Retired
- Summary of Membership Data by Category
- Schedule of Average Benefit Payment Amounts
- Schedule of Retired and Vested Members by Type of Benefit
- Solvency Test

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

- Schedule of Employer Contributions – Pension and OPEB
- Schedule of Changes in the Employers' Net Pension Liability, Net OPEB Liability and Related Ratios
- Sensitivity of Net Pension Liability and Net OPEB Liability to the Single Discount Rate Assumption

The schedules include information regarding pension plan funding under the New Hampshire Statute RSA 100-A:16. The basic financial objective of the New Hampshire Retirement System (NHRS) is to establish and receive pension contributions which:

- When expressed in terms of percents of active member payroll will remain approximately level from generation to generation; and
- When combined with present assets and future investment return will be sufficient to meet the financial obligations of NHRS to present and future retirees and beneficiaries.

The financial objective for medical subsidy benefits under RSA 100-A:53, 53-b, 53-c and 53-d is to contribute the lesser of 25 percent of the total employer contribution or the minimum amount necessary to maintain the benefit. RSA 100-A:16 requires biennial actuarial valuations on June 30 of odd years. The Board has adopted an Actuarial Funding Policy which requires annual actuarial valuations. The financial objectives are addressed within the statutory biennial actuarial valuation.

The valuation process develops pension contribution rates that are sufficient to fund the plan's current pension cost (i.e., the costs assigned by the valuation method to the year of service about to be rendered), as well as to fund pension unfunded actuarial accrued liabilities as a level percent of active member payroll over a closed 30-year period beginning with the fiscal year ending June 30, 2010.

Legislation was enacted in 2018 which requires the unfunded liability as of June 30, 2017 to be amortized through 2039. Each subsequent change in liability as calculated in odd-numbered years shall be separately amortized over a fixed period of no longer than 20 years.

The actuarial calculations for funding purposes as of June 30, 2020 in this report are based on the assumptions adopted by the Board pursuant to the June 30, 2019 experience study and the census information as of June 30, 2020. The actuarial accrued liability as of June 30, 2020 differs from the total pension (OPEB) liability as of June 30, 2020 under GASB Statement Nos. 67 and 74 because the total pension (OPEB) liability is based on a roll-forward of the June 30, 2019 actuarial valuation under the System's accounting procedures.

For funding purposes, assets are valued on a market related basis that recognizes each year's difference between actual and assumed investment return over a closed five-year period. For GASB Statement Nos. 67 and 74 purposes, assets are reported and used on a market basis.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The actuarial assumptions are established by the Board after consulting with the actuary under New Hampshire Statute RSA 100-A:14 IX. We believe that the assumptions and methods used in this report are reasonable and appropriate for the purposes for which they have been used.

However, other assumptions and methods could also be reasonable and could result in materially different results. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial. The actuarial funding method is the Individual Entry Age Actuarial Cost Method, in compliance with NHRS State Statutes. The assumptions and the methods comply with the requirements of Statement Nos. 67 and 74 of the Governmental Accounting Standards Board. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed. Actuarial methods and assumptions were adopted by the Board pursuant to the June 30, 2019 Experience Study.

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. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.



We certify that the information contained in this June 30, 2020 accounting report of the NHRS is accurate and fairly presents the actuarial position of the New Hampshire Retirement System as of June 30, 2020 under the current actuarial assumptions. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes RSA 100-A:16, 100-A:53, 100-A:53-b, 100-A:53-c, and 100-A:53-d.

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; 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.

David T. Kausch, Heidi G. Barry and Casey T. Ahlbrandt-Rains are independent of the plan sponsor, are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



David T. Kausch, FSA, EA, FCA, MAAA, PhD



Heidi G. Barry, ASA, FCA, MAAA



Casey T. Ahlbrandt-Rains, ASA, MAAA



SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

VALUATION METHODS

PENSION

Actuarial Cost Methods — Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an Individual Entry-Age Actuarial Cost Method having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gain/(losses), as they occur, reduce (increase) the unfunded actuarial accrued liability.

Financing of Unfunded Actuarial Accrued Liabilities — Unfunded Actuarial Accrued Liabilities are amortized by level (principal & interest combined) percent-of-payroll contributions from the contribution effective date. The unfunded liability as of June 30, 2017 shall be amortized through 2039. Each subsequent change in liability as calculated in odd-numbered years shall be separately amortized over a fixed period of no longer than 20 years.

OPEB

- (i) Liabilities are determined under the entry-age actuarial cost method.
- (ii) Contribution rates to the 401(h) sub-trust are determined as the lesser of 25% of the employers' contributions or the actuarial required contribution rate that keeps the medical subsidy sub-trust solvent (the "solvency rate").

Actuarial Value of Assets — The actuarial value of assets recognizes assumed investment income fully each year. Differences between actual and assumed investment income are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, funding value of assets will tend to be less than fair value. During periods when investment performance is less than the assumed rate, funding value of assets will tend to be greater than fair value. The funding value of assets is unbiased with respect to fair value. At any time it may be either greater or less than fair value. If assumed rates are exactly realized for 4 consecutive years, it will become equal to fair value. Funding value was limited to a 20% corridor around the fair value.

The actuarial value of assets allocated to the pension and medical subsidy plan is based on the fair value of those plans. The actuarial value of assets was then further allocated to each fund (either pension or medical subsidy) based on the fair value of those funds.

For purposes of determining the medical subsidy solvency rate, the fair value of assets was used for all group funds due to the short time horizon before these closed group funds are expected to become pay-as-you-go.

Development of Amortization Payment — The employer contribution rates determined by the 2019 valuation are for the 2022-2023 biennium. The Unfunded Actuarial Accrued Liability (UAAL) was determined using the Actuarial Value of assets and actuarial accrued liability calculated as of the valuation date. The UAAL amortization payment (one component of the contribution requirement), is the level percent of pay required to fully amortize the UAAL over multiple periods beginning on July 1, 2021. This UAAL payment reflects any payments expected to be made and interest to be accrued between the valuation date and the date contributions determined by the June 30, 2019 Funding report are scheduled to begin. It was assumed that the entire pension contribution as determined by the June 30, 2017 valuation effective from July 1, 2019 to June 30, 2021 would be contributed to the net pension assets. The unfunded liability as of June 30, 2017 shall be amortized through 2039. Each subsequent change in liability as calculated in odd-numbered years shall be separately amortized over a fixed period of no longer than 20 years.

ECONOMIC ASSUMPTIONS

The investment return rate assumed in the valuation is 6.75% per year, compounded annually (net after investment expenses). The investment return rate assumed in the medical subsidy valuations is 2.75% per year, compounded annually (net after investment expenses) for purposes of computing accrued liabilities and other disclosures required by GASB Statement No. 74. However, for determining the solvency contribution rate for the medical subsidy account, the investment return rate assumption was 6.75% on the fair value of assets.

The wage inflation rate assumed in this valuation was 2.75% per year. The wage inflation rate is defined to be the portion of total pay increases for an individual that are due to macro economic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes related to individual merit and seniority effects.

The price inflation assumption is 2.0% per year.

The assumed real rate of return over wage inflation is defined to be the portion of total investment return that is more than the assumed total wage growth rate. Considering other economic assumptions, the 6.75% investment return rate translates to an assumed real rate of return over wage inflation of 4.00%. The assumed real rate of return over price inflation would be higher — on the order of 4.75%, with a 2.0% price inflation assumption.

The active member population is assumed to remain constant. For purposes of financing the unfunded liabilities, total payroll is assumed to grow at the wage inflation rate — 2.75% per year. For Teachers, the active member population is assumed to decline by 0.50% per year. For purposes of financing the unfunded liabilities, total payroll for Teachers is assumed to grow at the wage inflation rate minus 0.50% which is 2.75% per year.

Pay increase assumptions for individual active members are shown for sample ages on pages 75–79. Part of the assumption for each age is for merit and/or seniority increase, and the other 3.25% recognizes wage inflation, including price inflation, productivity increases, and other macro economic forces.

TECHNICAL ASSUMPTIONS

Administrative & Investment Expenses	The investment return assumption is intended to be the return net of investment expenses. Annual administrative expenses are assumed to be equal to the prior year's administrative expenses. Assumed administrative expenses are added to the Normal Cost, and were 0.35% of payroll in the June 30, 2020 interim valuation.
Benefit Service	Exact fractional service is used to determine the amount of benefit payable.
COLA	None assumed.
Decrement Operation	Disability and withdrawal do not operate during normal retirement eligibility.
Decrement Timing	Normal and early retirement decrements for the Teachers group are assumed to occur at the beginning of the year. All other decrements were assumed to occur mid-year.
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.
Forfeitures	The percent of vested members who quit before retirement who elect to refund and forfeit their pension is assumed to be 25% at first vesting eligibility, grading to 0% at first retirement eligibility.
Incidence of Contributions	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll, and the actual payroll at the time contributions are made.
Liability Adjustments	Normal, early, and vesting retirement liabilities are increased by 8.5%, 5.5%, 11.0%, and 12.0% for Employees, Teachers, Police, and Fire respectively to account for end of career pay increases. Members hired after July 1, 2011 or who have non-vested status as of January 1, 2012 are assumed to have no adjustment for end of career payments.
Marriage Assumption	Group I: 55% of males and 55% of females are assumed to be married for purposes of death-in-service benefits. Group II: 65% of males and 65% of females are assumed to be married for purposes of death-in-service and death after retirement benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Normal Form of Benefit	This valuation assumes that members will elect the normal form of payment. Alternate forms of payment are available and are actuarially adjusted based on the valuation interest and mortality. Group I: The assumed normal form of benefit is a straight life benefit. Group II: The assumed normal form of benefit is straight life for single members and joint and 50% survivor for married members.
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.
New Entrant Profile	For purposes of projecting the normal cost to the beginning of the rate setting biennium, the new entrant profile is based on actual members with 3–8 years of service on the valuation date.
Service Credit Accruals	It is assumed that members accrue one year of service credit per year.
Data Adjustments	New active member pays were annualized.
Medical Subsidy	The solvency rates for the medical subsidy benefits were determined to provide an estimated margin of 20% of the benefits (50% for Teachers) by the end of the first year of the biennium and thereafter. The margin is intended to mitigate the risk of insolvency due to adverse experience

GROUP I—EMPLOYEES

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal and vesting, death, disability, and normal retirement are as follows:

Annual Rate of							
Age	Years of Service	Withdrawal and Vesting		Death*		Disability**	
		Men	Women	Men	Women	Men	Women
	0	27.00%	27.00%				
	1	21.00	21.00				
	2	15.00	15.00				
	3	12.00	12.00				
	4	10.00	10.00				
25	5+	8.26	8.26	.08%	.01%	.011%	.011%
30		6.84	6.84	.05	.02	.014	.014
35		5.74	5.74	.07	.03	.018	.018
40		4.97	4.97	.08	.04	.038	.038
45		4.39	4.39	.10	.06	.072	.072
50		3.81	3.81	.14	.08	.015	.150
55		3.48	3.48	.21	.13	.281	.281
60		3.23	3.23	—	—	—	—

Annual Rate of Normal Retirement				
Age	For Members Hired Prior to July 1, 2011		For Members Hired On or After July 1, 2011	
	Men	Women	Men	Women
60	10.80%	10.80%	—	—
61	10.10	10.50	—	—
62	15.50	13.90	—	—
63	16.10	13.60	—	—
64	13.50	14.30	—	—
65	17.10	19.20	45.00%	44.00%
66	24.80	24.00	45.00	44.00
67	23.10	23.70	23.00	22.00
68	19.80	20.20	21.00	18.00
69	18.80	20.10	20.00	19.00
70	100.00	100.00	100.00	100.00

*98% are assumed to be ordinary death and 2% are assumed to be accidental death.

**50% are assumed to be ordinary disability and 50% are assumed to be accidental disability.

SALARY INCREASES: Representative values of the assumed rates of future salary increases are as follows:

Service Index	Merit & Seniority	Base	Annual Rate of Salary Increases
1	12.00%	2.75%	14.75%
2	6.00	2.75	8.75
3	3.00	2.75	5.75
4	2.75	2.75	5.50
5	2.50	2.75	5.25
6	2.25	2.75	5.00
7	2.00	2.75	4.75
8	1.75	2.75	4.50
9	1.50	2.75	4.25
10	1.25	2.75	4.00
11	1.00	2.75	3.75
12–25	0.75	2.75	3.50

DEATHS AFTER RETIREMENT:

MORTALITY RATE			MORTALITY RATE		
AGE	MEN	WOMEN	AGE	MEN	WOMEN
35	.07%	.03%	60	.65%	.45%
40	.08	.05	65	.93	.65
45	.11	.07	70	1.44	.93
50	.28	.23	75	2.46	1.88
55	.43	.33	80	4.43	3.45

GROUP I—TEACHERS

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal and vesting, death, disability, and normal retirement are as follows:

		Annual Rate of					
		Withdrawal and Vesting		Death*		Disability**	
Age	Years of Service	Men	Women	Men	Women	Men	Women
	0	25.00%	25.00%				
	1	15.00	15.00				
	2	12.00	12.00				
	3	10.00	10.00				
	4	8.00	8.00				
25	5+	7.70	7.70	.02%	.01%	.00%	.00%
30		6.00	6.00	.03	.02	.01	.00
35		4.60	4.60	.04	.03	.01	.01
40		3.70	3.70	.05	.04	.01	.01
45		2.80	2.80	.07	.05	.02	.02
50		2.40	2.40	.10	.07	.05	.05
55		2.30	2.30	.17	.11	.09	.09
60		2.30	2.30	—	—	—	—

*98% are assumed to be ordinary death and 2% are assumed to be accidental death.

**50% are assumed to be ordinary disability and 50% are assumed to be accidental disability.

Annual Rate of Normal Retirement				
For Members Hired Prior to July 1, 2011			For Members Hired On or After July 1, 2011	
Age	Men	Women	Men	Women
60	16.00%	13.00%	—	—
61	16.00	14.00	—	—
62	20.00	18.00	—	—
63	16.00	19.00	—	—
64	20.00	19.00	—	—
65	24.50	28.00	58.00%	56.00%
66	32.00	35.00	58.00	56.00
67	28.00	32.00	25.00	27.00
68	28.00	28.00	25.00	27.00
69	28.00	30.00	25.00	27.00
70	100.00	100.00	100.00	100.00

SALARY INCREASES: Representative values of the assumed rates of future salary increases are as follows:

Service Index	Merit & Seniority	Base	Annual Rate of Salary Increases
1	8.00%	2.75%	10.75%
2	8.00	2.75	10.75
3	4.00	2.75	6.75
4	3.50	2.75	6.25
5	3.25	2.75	6.00
6	3.00	2.75	5.75
7	2.75	2.75	5.50
8	2.50	2.75	5.25
9	2.25	2.75	5.00
10	2.00	2.75	4.75
11	1.75	2.75	4.50
12	1.50	2.75	4.50
13	1.25	2.75	4.00
14–25	1.00	2.75	3.75

DEATHS AFTER RETIREMENT:

MORTALITY RATE			MORTALITY RATE		
AGE	MEN	WOMEN	AGE	MEN	WOMEN
35	.04%	.03%	60	.38%	.32%
40	.05	.04	65	.61	.45
45	.2073	.05	70	1.02	.73
50	.11	.08	75	1.89	1.40
55	.22	.21	80	3.61	2.79

GROUP II — POLICE OFFICERS

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal, vesting, death, disability, and retirement are as follows:

Annual Rate of							
Age	Years of Service	Withdrawal and Vesting		Death*		Disability**	
		Men	Women	Men	Women	Men	Women
	0	25.00%	25.00%				
	1	16.00	16.00				
	2	10.50	10.50				
	3	7.00	7.00				
	4	5.50	5.50				
25	5+	6.58	6.58	.04%	.03%	.01%	.01%
30		4.97	4.97	.06	.04	.01	.01
35		3.84	3.84	.07	.05	.03	.03
40		2.99	2.99	.07	.06	.06	.06
45		2.39	2.39	.08	.07	.11	.11
50		2.03	2.03	.11	.09	.18	.18
55		1.88	1.88	.17	.13	.27	.27
60		1.88	1.88	—	—	—	—

SALARY INCREASES: Representative values of the assumed rates of future salary increases are as follows:

Service Index	Merit & Seniority	Base	Annual Rate of Salary Increases
1	25.00%	2.75%	27.75%
2	19.00	2.75	21.75
3	6.00	2.75	8.75
4	4.50	2.75	7.25
5	3.50	2.75	6.25
6	2.75	2.75	5.50
7	2.25	2.75	5.00
8	1.80	2.75	4.55
9-25	1.80	2.75	4.25

DEATHS AFTER RETIREMENT:

MORTALITY RATE			MORTALITY RATE		
AGE	MEN	WOMEN	AGE	MEN	WOMEN
35	.06%	.05%	60	.51%	.47%
40	.08	.06	65	.86	.74
45	.12	.09	70	1.41	1.19
50	.17	.14	75	2.47	2.08
55	.29	.27	80	4.51	3.70

NORMAL RETIREMENT

For Members Hired Prior to July 1, 2011 Who Have Vested Status as of January 1, 2012		For Members Hired on or After July 1, 2011 and for Members Hired Prior to July 1, 2011 Who Have Non-Vested Status as of January 1, 2012				
Retirement Ages	% of Active Members Retiring Within Next Year	Age 46 with 21 years	Age 47 with 22 years	Age 48 with 23 years	Age 49 with 24 years	Age 50 with 25 years
45	21%					
46	21%	27%				
47	21%	27%	31%			
48	21%	25%	31%	34%		
49	21%	25%	31%	34%	38%	
50	21%	25%	27%	34%	38%	40%
51	21%	21%	27%	31%	38%	40%
52	21%	21%	21%	31%	33%	40%
53	21%	21%	21%	21%	33%	38%
54	21%	21%	21%	21%	21%	38%
55	21%	21%	21%	21%	21%	21%
56	21%	21%	21%	21%	21%	21%
57	21%	21%	21%	21%	21%	21%
58	21%	21%	21%	21%	21%	21%
59	21%	21%	21%	21%	21%	21%
60	21%	21%	21%	21%	21%	21%
61	21%	21%	21%	21%	21%	21%
62	21%	21%	21%	21%	21%	21%
63	21%	21%	21%	21%	21%	21%
64	21%	21%	21%	21%	21%	21%
65	21%	21%	21%	21%	21%	21%
66	21%	21%	21%	21%	21%	21%
67	21%	21%	21%	21%	21%	21%
68	21%	21%	21%	21%	21%	21%
69	21%	21%	21%	21%	21%	21%
70	100%	100%	100%	100%	100%	100%

GROUP II — FIREFIGHTERS

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed annual rates of withdrawal and vesting, death, disability, and retirement are as follows:

		Annual Rate of					
		Withdrawal and Vesting		Death*		Disability**	
Age	Years of Service	Men	Women	Men	Women	Men	Women
	0	7.25%	7.25%				
	1	5.00	5.00				
	2	2.50	2.50				
	3	2.00	2.00				
	4	1.50	1.50				
25	5+	1.15	1.15	.04%	.03%	.04%	.04%
30		1.15	1.15	.06	.04	.05	.05
35		1.15	1.15	.07	.05	.06	.06
40		1.15	1.15	.07	.06	.09	.09
45		1.15	1.15	.08	.07	.13	.13
50		1.15	1.15	.11	.09	.18	.18
55		1.15	1.15	.17	.13	.28	.28
60		1.15	1.15	—	—	—	—

SALARY INCREASES: Representative values of the assumed rates of future salary increases are as follows:

Service Index	Merit & Seniority	Base	Annual Rate of Salary Increases
1	25.00%	2.75%	27.75%
2	15.00	2.75	17.75
3	7.00	2.75	9.75
4	5.00	2.75	7.75
5	3.75	2.75	6.50
6	2.50	2.75	5.25
7	2.00	2.75	4.75
8	1.50	2.75	4.25
9–25	1.00	2.75	3.75

DEATHS AFTER RETIREMENT:

MORTALITY RATE			MORTALITY RATE		
AGE	MEN	WOMEN	AGE	MEN	WOMEN
35	.06%	.05%	60	.51%	.47%
40	.08	.06	65	.86	.74
45	.12	.09	70	1.41	1.19
50	.17	.14	75	2.47	2.08
55	.29	.29	80	1.51	3.70

NORMAL RETIREMENT

For Members Hired Prior to July 1, 2011 Who Have Vested Status as of January 1, 2012		For Members Hired on or After July 1, 2011 and for Members Hired Prior to July 1, 2011 Who Have Non-Vested Status as of January 1, 2012				
Retirement Ages	% of Active Members Retiring Within Next Year	Age 46 with 21 years	Age 47 with 22 years	Age 48 with 23 years	Age 49 with 24 years	Age 50 with 25 years
45	11%					
46	11%	15%				
47	11%	15%	18%			
48	11%	15%	18%	22%		
49	1%	15%	18%	22%	26%	
50	16%	15%	18%	21%	26%	30%
51	16%	16%	18%	21%	26%	30%
52	16%	16%	16%	21%	21%	30%
53	16%	16%	16%	17%	21%	22%
54	16%	16%	16%	17%	16%	22%
55	19%	19%	19%	19%	19%	19%
56	19%	19%	19%	19%	19%	19%
57	19%	19%	19%	19%	19%	19%
58	19%	19%	19%	19%	19%	19%
59	19%	19%	19%	19%	19%	19%
60	23%	23%	23%	23%	23%	23%
61	23%	23%	23%	23%	23%	23%
62	23%	23%	23%	23%	23%	23%
63	23%	23%	23%	23%	23%	23%
64	23%	23%	23%	23%	23%	23%
65	28%	28%	28%	28%	28%	28%
66	28%	28%	28%	28%	28%	28%
67	28%	28%	28%	28%	28%	28%
68	28%	28%	28%	28%	28%	28%
69	28%	28%	28%	28%	28%	28%
70	100%	100%	100%	100%	100%	100%

HISTORICAL MEMBERSHIP DATA — ACTIVE AND RETIRED

The following 4 tables summarize the actuarial valuation data for the period from 2010 through 2019. Valuations are prepared biennially on all odd numbered years. Interim valuations are prepared in even numbered years.

EMPLOYEES (aggregate compensation and annual allowance dollars in thousands)

ACTIVE MEMBERSHIP DATA

FISCAL YEAR	NUMBER OF ACTIVES*	AGGREGATE COMPENSATION	AVERAGE COMPENSATION	% INCREASE IN AVERAGE COMPENSATION
2020	24,602	\$1,274,597	\$ 51,810	2.60%
2019	24,654	1,244,930	50,496	2.70%
2018	24,511	1,205,121	49,167	2.03%
2017	24,478	1,179,518	48,187	3.97%
2016	24,520	1,136,451	46,348	(0.14%)
2015	24,298	1,127,766	46,414	4.66%
2014	25,545	1,088,508	44,347	1.94%
2013	24,809	1,079,245	43,502	(0.03%)
2012	24,747	1,076,831	43,514	(0.23%)
2011	25,539	1,113,867	43,614	3.68%

*Excludes temporary inactive members.

RETIRED MEMBERSHIP DATA

ADDED TO ROLLS			REMOVED FROM ROLLS		ROLLS END OF YEAR		% INCREASE IN ANNUAL ALLOWANCES
FISCAL YEAR	NO.**	ANNUAL* ALLOWANCES (IN DOLLARS)	NO.	ANNUAL ALLOWANCES (IN DOLLARS)	NO.	ANNUAL ALLOWANCES	
2020	1,208	\$20,619	598	\$ 7,641	19,434	\$276,154	4.93%
2019	1,271	21,869	640	7,801	18,824	263,177	5.65%
2018	1,133	19,288	513	6,556	18,193	249,109	5.39%
2017	1,950	22,224	519	8,977	17,573	236,377	5.94%
2016	1,134	19,332	475	4,636	16,142	223,130	7.05%
2015	1,504	21,357	1,335	10,968	15,483	208,434	5.25%
2014	1,094	15,784	492	5,431	15,314	198,045	5.52%
2013	1,110	16,335	539	6,699	14,712	187,692	5.41%
2012	1,111	14,711	457	4,890	14,141	178,056	5.84%
2011	1,113	16,521	428	4,578	13,487	168,235	7.64%

*Includes additional COLA allowances. The benefit amounts shown are the monthly benefits as of the valuation date annualized and are not the actual benefits paid during the fiscal year.

**Includes beneficiaries in receipt but excludes deferred vested terminations.

TEACHERS

(aggregate compensation and annual allowance dollars in thousands)

ACTIVE MEMBERSHIP DATA

FISCAL YEAR	NUMBER OF ACTIVES*	AGGREGATE COMPENSATION	AVERAGE COMPENSATION	% INCREASE IN AVERAGE COMPENSATION
2020	17,917	\$1,160,884	\$ 64,792	1.16%
2019	17,730	1,135,607	64,050	1.86%
2018	17,883	1,117,581	62,494	2.56%
2017	17,617	1,073,447	60,932	1.69%
2016	17,784	1,065,621	59,920	1.15%
2015	17,732	1,050,447	59,240	3.06%
2014	17,986	1,033,867	57,482	(0.04%)
2013	18,084	1,039,934	57,506	0.75%
2012	18,161	1,036,605	57,079	1.70%
2011	18,466	1,036,376	56,123	2.28 %

*Excludes temporary inactive members.

RETIRED MEMBERSHIP DATA

ADDED TO ROLLS			REMOVED FROM ROLLS		ROLLS END OF YEAR		
FISCAL YEAR	NO.**	ANNUAL* ALLOWANCES (IN DOLLARS)	NO.	ANNUAL ALLOWANCES (IN DOLLARS)	NO.	ANNUAL ALLOWANCES	% INCREASE IN ANNUAL ALLOWANCES
2020	718	\$19,654	260	\$6,213	14,198	\$318,968	4.40%
2019	774	20,617	257	6,371	13,740	305,527	4.89%
2018	766	20,526	239	6,075	13,223	291,281	5.22%
2017	1,523	21,713	237	8,847	12,696	276,830	4.87%
2016	760	19,954	209	5,325	11,410	263,964	5.87%
2015	840	21,653	946	6,891	10,859	249,335	6.25%
2014	744	17,222	186	4,802	10,965	234,663	5.59%
2013	698	15,844	247	5,860	10,407	222,243	4.70%
2012	712	16,420	183	5,150	9,956	212,259	5.61%
2011	504	10,402	164	3,644	9,427	200,989	3.48%

*Includes additional COLA allowances. The benefit amounts shown are the monthly benefits as of the valuation date annualized and are not the actual benefits paid during the fiscal year.

**Includes beneficiaries in receipt but excludes deferred vested terminations.

POLICE OFFICERS (aggregate compensation and annual allowance dollars in thousands)**ACTIVE MEMBERSHIP DATA**

FISCAL YEAR	NUMBER OF ACTIVES*	AGGREGATE COMPENSATION	AVERAGE COMPENSATION	% INCREASE IN AVERAGE COMPENSATION
2020	4,256	\$ 322,994	\$ 75,891	2.22%
2019	4,216	313,016	74,245	3.11%
2018	4,221	302,767	71,729	2.32%
2017	4,151	291,004	70,105	3.42%
2016	4,139	280,577	67,789	1.22%
2015	4,174	279,555	66,975	3.15%
2014	4,166	270,497	64,930	1.91%
2013	4,187	266,775	63,715	0.20%
2012	4,118	261,865	63,590	1.20%
2011	4,130	259,509	62,835	2.86 %

*Excludes temporary inactive members.

RETIRED MEMBERSHIP DATA

FISCAL YEAR	ADDED TO ROLLS		REMOVED FROM ROLLS		ROLLS END OF YEAR		% INCREASE IN ANNUAL ALLOWANCES
	NO.**	ANNUAL* ALLOWANCES (IN DOLLARS)	NO.	ANNUAL ALLOWANCES (IN DOLLARS)	NO.	ANNUAL ALLOWANCES	
2020	209	\$ 8,967	64	\$1,720	4,227	\$157,907	4.81%
2019	230	9,739	71	1,595	4,082	150,660	5.71%
2018	201	7,967	64	1,390	3,923	142,516	4.85%
2017	233	7,985	76	1,745	3,786	135,930	4.81%
2016	239	10,027	67	1,339	3,629	129,690	7.18%
2015	282	7,303	107	1,675	3,457	121,002	4.88%
2014	178	6,420	59	1,304	3,282	115,374	4.64%
2013	247	8,189	65	1,464	3,163	110,258	6.50%
2012	171	6,977	70	1,008	2,981	103,533	6.12%
2011	237	10,370	59	1,133	2,880	97,564	10.46%

*Includes additional COLA allowances. The benefit amounts shown are the monthly benefits as of the valuation date annualized and are not the actual benefits paid during the fiscal year.

**Includes beneficiaries in receipt but excludes deferred vested terminations.

FIREFIGHTERS

(aggregate compensation and annual allowance dollars in thousands)

ACTIVE MEMBERSHIP DATA

FISCAL YEAR	NUMBER OF ACTIVES*	AGGREGATE COMPENSATION	AVERAGE COMPENSATION	% INCREASE IN AVERAGE COMPENSATION
2020	1,704	\$ 136,234	\$ 79,949	2.66%
2019	1,688	131,453	77,875	0.51%
2018	1,667	128,883	77,314	2.54%
2017	1,640	123,643	75,392	3.23%
2016	1,626	118,754	73,034	0.15%
2015	1,608	117,263	72,925	2.07%
2014	1,610	115,027	71,445	(0.78%)
2013	1,608	115,788	72,007	2.39%
2012	1,599	112,456	70,329	4.36%
2011	1,603	108,028	67,391	1.75%

*Excludes temporary inactive members.

RETIRED MEMBERSHIP DATA

ADDED TO ROLLS			REMOVED FROM ROLLS		ROLLS END OF YEAR		
FISCAL YEAR	NO.**	ANNUAL* ALLOWANCES (IN DOLLARS)	NO.	ANNUAL ALLOWANCES (IN DOLLARS)	NO.	ANNUAL ALLOWANCES	% INCREASE IN ANNUAL ALLOWANCES
2020	87	\$4,289	40	\$1,048	1,753	\$72,514	4.68%
2019	80	3,992	47	1,244	1,706	69,273	4.13%
2018	68	3,266	34	717	1,673	66,525	3.98%
2017	88	3,697	44	1,213	1,639	63,976	4.04%
2016	75	4,177	31	936	1,595	61,492	5.56%
2015	105	4,546	47	882	1,551	58,251	6.71%
2014	89	2,774	43	1,139	1,493	54,587	3.09%
2013	98	3,497	27	715	1,447	52,952	5.55%
2012	79	3,105	39	495	1,376	50,170	5.49%
2011	111	5,051	29	696	1,336	47,560	10.08%

*Includes additional COLA allowances. The benefit amounts shown are the monthly benefits as of the valuation date annualized and are not the actual benefits paid during the fiscal year.

**Includes beneficiaries in receipt but excludes deferred vested terminations.

TOTAL OF ALL GROUPS

(dollars in thousands)

Fiscal Year	Projected Liabilities For			Net Position Held For Benefits	Percentage of Accrued Liabilities Covered By Net Position Held for Benefits		
	(1) Aggregate Member Contributions	(2) Current Retirees & Beneficiaries	(3) Active & Inactive Members (Employer Financed Portion)*		(1)	(2)	(3)
2020	\$3,119,450	\$8,739,587	\$3,628,978	\$9,447,838	100.00%	72.00%	0.00%
2019	\$3,019,358	\$7,945,717	\$3,110,269	\$9,121,933	100.00%	77.00%	0.00%
2018	\$2,927,793	\$7,667,448	\$3,107,908	\$8,710,939	100.00%	75.00%	0.00%
2017	\$2,915,811	\$7,315,440	\$2,997,199	\$8,165,685	100.00%	72.00%	0.00%
2016	\$2,978,817	\$6,964,227	\$2,789,821	\$7,636,066	100.00%	67.00%	0.00%
2015	\$2,886,196	\$3,210,280	\$1,820,582	\$4,862,256	100.00%	82.00%	0.00%

EMPLOYEES

(dollars in thousands)

Fiscal Year	Projected Liabilities For			Net Position Held For Benefits	Percentage of Accrued Liabilities Covered By Net Position Held for Benefits		
	(1) Aggregate Member Contributions	(2) Current Retirees & Beneficiaries	(3) Active & Inactive Members (Employer Financed Portion)*		(1)	(2)	(3)
2020	\$1,194,410	\$2,766,799	\$1,202,228	\$3,173,612	100.00%	72.00%	0.00%
2019	\$1,160,917	\$2,468,647	\$982,771	\$3,063,967	100.00%	77.00%	0.00%
2018	\$1,128,180	\$2,391,404	\$974,131	\$2,922,358	100.00%	75.00%	0.00%
2017	\$1,133,071	\$2,272,436	\$934,564	\$2,734,558	100.00%	70.00%	0.00%
2016	\$1,152,928	\$2,139,549	\$857,347	\$2,538,563	100.00%	65.00%	0.00%
2015	\$1,107,866	\$1,916,257	\$840,426	\$2,403,294	100.00%	68.00%	0.00%

TEACHERS

(dollars in thousands)

Fiscal Year	Projected Liabilities For			Net Position Held For Benefits	Percentage of Accrued Liabilities Covered By Net Position Held for Benefits		
	(1) Aggregate Member Contributions	(2) Current Retirees & Beneficiaries	(3) Active & Inactive Members (Employer Financed Portion)*		(1)	(2)	(3)
2020	\$1,225,030	\$3,310,020	\$1,470,570	\$3,450,798	100.00%	67.00%	0.00%
2019	\$1,181,186	\$3,059,089	\$1,264,212	\$3,326,088	100.00%	70.00%	0.00%
2018	\$1,142,455	\$2,956,675	\$1,268,903	\$3,176,932	100.00%	69.00%	0.00%
2017	\$1,132,876	\$2,819,228	\$1,211,560	\$2,979,005	100.00%	70.00%	0.00%
2016	\$1,171,831	\$2,692,037	\$1,156,821	\$2,799,863	100.00%	60.00%	0.00%
2015	\$1,127,439	\$2,323,302	\$988,870	\$2,682,083	100.00%	67.00%	0.00%

*Liabilities for active members are based on service as of the valuation date and projected compensation at the member's expected retirement date. Also includes terminated vested members.

NOTE: Based on a 7.25% interest rate for fiscal years 2015 to 2019 and 6.75% after that.

POLICE OFFICERS

(dollars in thousands)

Fiscal Year	Projected Liabilities For			Net Position Held For Benefits	Percentage of Accrued Liabilities Covered By Net Position Held for Benefits		
	(1) Aggregate Member Contributions	(2) Current Retirees & Beneficiaries	(3) Active & Inactive Members (Employer Financed Portion)*		(1)	(2)	(3)
2020	\$458,081	\$1,874,135	\$658,558	\$1,900,199	100.00%	78.00%	0.00%
2019	\$441,940	\$1,672,002	\$593,433	\$1,838,868	100.00%	84.00%	0.00%
2018	\$428,859	\$1,596,512	\$591,281	\$1,758,301	100.00%	83.00%	0.00%
2017	\$426,606	\$1,526,761	\$570,755	\$1,650,908	100.00%	80.00%	0.00%
2016	\$430,490	\$1,460,840	\$535,225	\$1,546,665	100.00%	76.00%	0.00%
2015	\$429,115	\$1,266,591	\$463,902	\$1,477,517	100.00%	83.00%	0.00%

FIREFIGHTERS

(dollars in thousands)

Fiscal Year	Projected Liabilities For			Net Position Held For Benefits	Percentage of Accrued Liabilities Covered By Net Position Held for Benefits		
	(1) Aggregate Member Contributions	(2) Current Retirees & Beneficiaries	(3) Active & Inactive Members (Employer Financed Portion)*		(1)	(2)	(3)
2020	\$241,928	\$815,632	\$297,624	\$923,229	100.00%	84.00%	0.00%
2019	\$235,315	\$745,979	\$269,853	\$883,010	100.00%	88.00%	0.00%
2018	\$228,299	\$722,857	\$273,593	\$853,348	100.00%	86.00%	0.00%
2017	\$223,258	\$697,015	\$260,320	\$801,214	100.00%	83.00%	0.00%
2016	\$223,568	\$671,801	\$240,428	\$750,975	100.00%	79.00%	0.00%
2015	\$221,776	\$592,362	\$210,708	\$718,867	100.00%	84.00%	0.00%

*Liabilities for active members are based on service as of the valuation date and projected compensation at the member's expected retirement date. Also includes terminated vested members.

NOTE: Based on a 7.25% interest rate for fiscal years 2015 to 2019 and 6.75% after that.

ANALYSIS OF PAST FINANCIAL EXPERIENCE

This presentation shows the experience of actual financial results relative to expected results. It is an analysis which focuses on actuarial gains and losses over the most recent five actuarial valuations and reconciles the difference in the actuarial normal contribution rates from the expected to actual values.

RECONCILIATION OF EMPLOYER NORMAL RATE *

EMPLOYEES

YEAR ENDED	June 30 2019	June 30 2017	June 30 2015	June 30, 2013		June 30 2011	June 30 2009
				State Employees	Political Subdivision Employees		
Projected Normal Rate*	10.88%	11.08	10.34%	10.51%	10.44%	10.71%	9.09%
Decremental Experience	—	—	—	—	—	—	—
Pensioners' Experience	—	—	—	—	—	—	—
Excess Salary Increases	—	—	—	—	—	—	—
Method Change	(0.46)	—	—	—	—	—	—
Effect of Legislation	—	—	—	—	—	(1.95)	(0.15)
Asset (Gains)/Losses	(0.01)	(0.20)	(0.44)	0.52	0.52	0.31	1.18
Current New Entrants	—	—	—	—	—	—	—
Amendments	—	—	—	—	—	—	—
Target Rate System Experience	—	—	—	—	—	—	—
Assumption Changes	3.23	—	1.18	—	—	1.01	—
Other (Gains)/Losses	0.11	—	—	(0.17)	(0.10)	0.36	0.59
ACTUAL NORMAL RATE	13.75%	10.88%	11.08%	10.86%	10.86%	10.44%	10.71%

TEACHERS

YEAR ENDED	June 30 2019	June 30 2017	June 30 2015	June 30 2013	June 30 2011	June 30 2009
Projected Normal Rate*	15.99%	15.70	12.09%	11.96%	11.51%	9.38%
Decremental Experience	—	—	—	—	—	—
Pensioners' Experience	—	—	—	—	—	—
Excess Salary Increases	—	—	—	—	—	—
Method Change	(0.40)	—	—	—	—	—
Effect of Legislation	—	—	—	—	(2.27)	—
Asset (Gains)/Losses	0.03	(0.09)	(0.30)	0.61	0.39	1.55
Current New Entrants	—	—	—	—	—	—
Amendments	—	—	—	—	—	—
Target Rate System Experience	—	—	—	—	—	—
Assumption Changes	3.67	0.38	3.91	—	2.05	—
Other (Gains)/Losses	0.19	—	—	0.15	0.28	0.58
ACTUAL NORMAL RATE	19.48%	15.99%	15.70%	12.72%	11.96%	11.51%

*Based on forecast valuations.

This presentation shows the experience of actual financial results relative to expected results. It is an analysis which focuses on actuarial gains and losses over the most recent five actuarial valuations and reconciles the difference in the actuarial normal contribution rates from the expected to actual values.

RECONCILIATION OF EMPLOYER NORMAL RATE *

POLICE OFFICERS

YEAR ENDED	June 30 2019	June 30 2017	June 30 2015	June 30, 2013		June 30 2011	June 30 2009
				State Employees	Political Subdivision Employees		
Projected Normal Rate*	24.77%	25.33	20.88%	21.45%	21.35%	22.92%	17.34%
Decremental Experience	—	—	—	—	—	—	—
Pensioner's Experience	—	—	—	—	—	—	—
Excess Salary Increases	—	—	—	—	—	—	—
Method Change	(0.53)	—	—	—	—	—	—
Effect of Legislation	—	—	—	—	—	(7.15)	—
Asset (Gains)/Losses	(0.75)	(0.56)	(1.57)	1.31	1.31	0.85	2.89
Current New Entrants	—	—	—	—	—	—	—
Amendments	—	—	—	—	—	—	—
Target Rate System Experience	—	—	—	—	—	—	—
Assumption Changes	6.86	—	6.02	—	—	4.00	—
Other Asset (Gains)/Losses	0.32	—	—	(0.22)	(0.12)	0.73	2.69
ACTUAL NORMAL RATE	30.67%	24.77%	25.33%	22.54%	22.54%	21.35%	22.92%

FIREFIIGHTERS

YEAR ENDED	June 30 2019	June 30 2017	June 30 2015	June 30, 2013		June 30 2011	June 30 2009
				State Employees	Political Subdivision Employees		
Projected Normal Rate*	26.43	27.79	23.38%	23.90%	23.79%	28.25%	22.52%
Decremental Experience	—	—	—	—	—	—	—
Pensioner's Experience	—	—	—	—	—	—	—
Excess Salary Increases	—	—	—	—	—	—	—
Method Change	(0.65)	—	—	—	—	—	—
Effect of Legislation	—	—	—	—	—	(8.58)	—
Asset (Gains)/Losses	(1.49)	(1.36)	(1.39)	1.46	1.46	0.99	3.24%
Current New Entrants	—	—	—	—	—	—	—
Amendments	—	—	—	—	—	—	—
Target Rate System Experience	—	—	—	—	—	—	—
Assumption Changes	5.15	—	5.80	—	—	3.39	—
Other Asset (Gains)/Losses	0.34	—	—	(0.04)	0.07	(0.26)	2.49%
ACTUAL NORMAL RATE	29.78%	26.43%	27.79%	25.32%	25.32%	23.79%	28.25%

*Based on forecast valuations.

The Schedules of Funding Progress below reflect the funding status of the Pension and OPEB plans based on the valuation or funding policy basis for the last 10 years. Separate schedules are included in the Required Supplementary Information of the Financial Section disclosing the 10-year schedule of actuarially determined and actual contributions paid.

SCHEDULE OF FUNDING PROGRESS — PENSION PLAN

(\$ in thousands)

Fiscal Year Ended	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UALL) (b-a)	Actuarial Value of Assets Percentage of AAL (a/b)	Annual Covered Payroll (c)	UAAL Percentage of Covered Payroll ([b-c]/c)
6/30/20	\$9,477,838	\$15,488,015	\$6,040,177	61.0%	\$2,894,708	208.7%
6/30/19	\$9,121,933	\$14,075,344	\$4,953,411	64.8%	\$2,825,006	175.3%
6/30/18	\$8,710,939	\$13,703,149	\$4,992,209	63.6%	\$2,752,235	181.4%
6/30/17	\$8,165,684	\$13,208,449	\$5,042,765	61.8%	\$2,667,612	189.0%
6/30/16	\$7,636,066	\$12,732,866	\$5,096,799	60.0%	\$2,601,404	195.9%
6/30/15	\$7,280,761	\$12,303,636	\$5,022,875	59.2%	\$2,575,031	174.1%
6/30/14	\$6,700,553	\$11,045,174	\$4,344,620	60.7%	\$2,507,899	173.2%
6/30/13	\$6,070,681	\$10,708,768	\$4,638,087	56.7%	\$2,501,742	185.4%
6/30/12	\$5,817,882	\$10,361,600	\$4,543,718	56.1%	\$2,487,757	182.6%
6/30/11	\$5,740,516	\$9,998,251	\$4,257,735	57.4%	\$2,517,779	169.1%

SCHEDULE OF FUNDING PROGRESS — OPEB PLAN

(\$ in thousands)

Fiscal Year Ended	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UALL) (b-a)	Actuarial Value of Assets Percentage of AAL (a/b)	Annual Covered Payroll (c)	UAAL Percentage of Covered Payroll ([b-c]/c)
6/30/20	\$ 38,125	\$ 656,648	\$ 618,522	5.8%	\$2,894,708	21.4%
6/30/19	\$ 36,646	\$ 657,597	\$ 620,951	5.6%	\$2,825,006	22.0%
6/30/18	\$ 36,777	\$ 689,577	\$ 652,800	5.3%	\$2,752,235	23.7%
6/30/17	\$ 38,853	\$ 696,548	\$ 657,695	5.6%	\$2,667,612	24.7%
6/30/16	\$ 27,350	\$ 730,132	\$ 702,782	3.7%	\$2,601,404	27.0%
6/30/15	\$ 19,515	\$ 761,342	\$ 741,827	2.6%	\$2,575,031	28.8%
6/30/14	\$ 21,245	\$ 714,103	\$ 692,858	3.0%	\$2,507,899	27.6%
6/30/13	\$ 21,823	\$ 731,872	\$ 710,049	3.0%	\$2,501,742	28.4%
6/30/12	\$ 24,317	\$ 752,759	\$ 728,442	3.2%	\$2,487,757	29.3%
6/30/11	\$ 33,220	\$ 777,573	\$ 744,353	4.3%	\$2,517,779	29.6%

MEMBERSHIP COMPOSITION — PENSION PLAN

	JUNE 30	
	2020	2019
ACTIVE CONTRIBUTING MEMBERS:		
Employees	24,602	24,654
Teachers	17,917	17,730
Police Officers	4,256	4,216
Firefighters	1,704	1,688
TOTAL ACTIVE CONTRIBUTING MEMBERS*	48,479	48,288
*Excludes inactive		
RETIRED MEMBERS:		
Employees	19,434	18,824
Teachers	14,198	13,740
Police Officers	4,227	4,082
Firefighters	1,753	1,706
TOTAL RETIRED MEMBERS	39,612	38,352
TERMINATED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:		
Employees	1,402	1,366
Teachers	1,100	1,034
Police Officers	133	125
Firefighters	26	27
TOTAL TERMINATED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:	2,661	2,552
INACTIVE MEMBERS:		
Non-Vested Inactive Members	13,760	12,530
TOTAL TERMINATED AND INACTIVE MEMBERS	13,760	12,530

MEMBERSHIP COMPOSITION — OPEB PLAN

	JUNE 30	
	2020	2019
ACTIVE CONTRIBUTING MEMBERS:		
OPEB Plan	892	1,045
TOTAL ACTIVE CONTRIBUTING MEMBERS	892	1,045
RETIRED MEMBERS:		
OPEB Plan	9,509	9,676
TOTAL RETIRED MEMBERS	9,509	9,676
TERMINATED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:		
OPEB Plan	2,960	2,944
TOTAL TERMINATED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:	2,960	2,944
INACTIVE MEMBERS:		
Non-Vested Inactive Members	—	—
TOTAL TERMINATED AND INACTIVE MEMBERS	2,960	2,944

SUMMARY OF PRINCIPAL PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

1 — GENERAL

Legal Plan Name	New Hampshire Retirement System.
Plan Type	Cost-sharing multiple-employer defined benefit pension plan and Cost-sharing multiple-employer defined benefit OPEB plan.
Effective Date	July 1, 1967.
Membership	Prospectively, any employee or teacher becomes a Group I member as a condition of employment. Any employee appointed to an unclassified position with no fixed term on or after July 1, 2011 will also become a member of the retirement system as a condition of employment. Membership is optional for elected officials, officials appointed for fixed terms, unclassified state employees with no fixed term prior to July 1, 2011 or employees of the general court.
Average Final Compensation (AFC)	Average annual earnable compensation during highest 3 years of creditable service. For active members who commenced service on or after July 1, 2011 or who have non-vested status on or after January 1, 2012 — Average annual earnable compensation during the highest 5 years of creditable service.
NOTE:	A more detailed description of the plan provisions is available from the System's administrative office or by visiting www.nhrs.org .

2 — BENEFITS

GROUP I MEMBERS (EMPLOYEES AND TEACHERS)

Service Retirement

Eligibility	Age 60 years (age 65 for members commencing service on or after July 1, 2011).
Amount of Benefit	<p>A member annuity equal to the actuarial equivalent of the member's accumulated contributions plus a state annuity.</p> <p>Prior to the member's attainment of age 65, the state annuity, together with the member annuity, shall be equal to 1/60 of AFC multiplied by years of service. (1/66 of AFC times creditable service for members commencing service on or after July 1, 2011.)</p> <p>After attainment of age 65, the state annuity, together with the member annuity, shall be equal to 1/66 of AFC multiplied by years of service.</p>

Reduced Service Retirement

Eligibility	Age plus service of at least 70, provided the member has at least 20 years of service or age 50 with at least 10 years of service (age 60 with 30 years of creditable service for members commencing service on or after July 1, 2011).
Amount of Benefit	Service retirement benefit is reduced by the following percents for each month that benefits commence prior to age 60.

Years of Service at Retirement	Monthly Percent Reduction
35 or more	1/8 of 1%
30–35	1/4 of 1%
25–30	1/3 of 1%
20–25	5/12 of 1%
less than 20	5/9 of 1%

For members commencing service on or after July 1, 2011, normal retirement benefit is reduced 1/4 or 1% for each month prior to age 65.

Ordinary Disability Retirement

Eligibility	10 years of service and permanent disability.
--------------------	---

Amount of Benefit	Service retirement benefit if normal retirement age. Under age 60 a member annuity plus a state annuity which together equals 1.5% of AFC multiplied by the number of years of creditable service at the time of disability; provided that the benefit shall not be less than 25% of AFC.
--------------------------	---

Accidental Disability Retirement

Eligibility	Permanently disabled due to accident occurring while in the performance of duty.
Amount of Benefit	Service retirement benefit if age 60, otherwise a member annuity plus a state annuity which together equals 50% of AFC; provided that the benefit shall not be less than 50% of AFC.

Ordinary Death Benefit

Eligibility	Death, other than accidental death.
Amount of Benefit	<p>(a) If 10 years of service or if eligible for service retirement and,</p> <ul style="list-style-type: none"> (i) if survived by a spouse, 50% of the service retirement benefit payable until death or remarriage; (ii) if no surviving spouse or member designated a beneficiary other than a spouse, a lump sum equal to the greater of \$3,600 or the member's annual compensation. <p>(b) If less than 10 years of service and if not eligible for service retirement, a lump sum equal to the greater of \$3,600 or the member's annual compensation.</p>

Accidental Death Benefit

Eligibility	Accidental death occurring while in the performance of duty.
Amount of Benefit	Benefit equal to 50% of AFC.

Vested Deferred Retirement

Eligibility	10 years of service, if no withdrawal of contributions.
Amount of Benefit	Payable at age 60, a member annuity plus a state annuity which together equals the service retirement benefit that would be payable after age 60. The benefit changes at age 65 as for service retirement. At any time after attainment of age 50 (age 60 for members hired on or after July 1, 2011), a member may have his benefit commence early, however, the benefit will be reduced for early commencement using the same early retirement reduction factors as described under reduced service retirement.

Return of Members' Contributions

- (a) Upon termination of service other than for retirement or death, and if vested deferred retirement benefit has not been elected, the member's accumulated contributions are returned to him.
- (b) Upon accidental death or upon other death for which no surviving spouse's benefit is payable, the member's accumulated contributions will be paid to the member's beneficiary or estate.
- (c) Upon death prior to age 60 of a member on deferred vested retirement, the member's accumulated contributions will be paid to the member's beneficiary or estate.
- (d) Upon death of a retired member (or the survivor of a retired member, if an optional benefit was elected), the excess of his accumulated contributions at retirement over the benefits received by the retired member (and, in the case of election of an optional benefit, the benefits received by the survivor) will be paid to the beneficiary or estate of the member.

Special Provisions Applicable to Certain Members Transferred from the Employees' Retirement System of the State of New Hampshire

Certain employee members transferred to the New Hampshire Retirement System effective January 1, 1976 have elected to have their benefits calculated on the basis of the provisions of the Predecessor System.

GROUP II MEMBERS (POLICE OFFICERS AND FIREFIGHTERS)

Service Retirement

Eligibility Age 45 and 20 years of creditable service or age 60 (age 52.5 with 25 years of creditable service or age 60 for members commencing service on or after July 1, 2011).

Amount of Benefit A member annuity that is the actuarial equivalent of the member's accumulated contributions plus a state annuity.

The state annuity, together with the member annuity, shall be equal to 2-1/2% of AFC times creditable service up to 40 years (2% of AFC times creditable service up to 42.5 years for members commencing service on or after July 1, 2011). However, a member who commenced service on or after July 1, 2011 shall not receive a service retirement allowance until attaining the age of 52.5.

Members hired prior to July 1, 2011 who have non-vested status as of January 1, 2012 shall be subject to the following transition provisions for years of service required for regular service retirement, the minimum age for regular service retirement, and the multiplier used to calculate the retirement annuity, which shall be applicable on January 1, 2012 according to the following table:

Creditable Service on January 1, 2012	Minimum Years of Service	Minimum Age Attained	Annuity Multiplier
(1) Less than 4 years	24 Years	Age 49	2.1%
(2) At least 4 years but less than 6 years	23 Years	Age 48	2.2%
(3) At least 6 years but less than 8 years	22 Years	Age 47	2.3%
(4) At least 8 years but less than 10 years	21 Years	Age 46	2.4%

Effective July 1, 1992, if a member retires on a full service retirement, the minimum annual benefit (prior to reduction for optional form of payment) is \$10,000.

Reduced Service Retirement

Eligibility Members commencing service on or after July 1, 2011 after attaining age 52.5 with at least 25 years of creditable service.

Amount of Benefit The allowance shall be reduced for each month by which the benefit commencement date precedes the month after which the member attains 52.5 years of age, by 1/4 of 1%.

Ordinary Disability Retirement

Eligibility 10 years service and permanent disability.

Amount of Benefit A member annuity plus a state annuity which together equals the service retirement benefit; provided that the benefit shall not be less than 25% of the member's annual compensation.

Accidental Disability Retirement

Eligibility Permanent disability occurring while in the performance of duty.

Amount of Benefit Members hired prior to July 1, 2011 who have vested status as of January 1, 2012 are eligible for an accidental disability benefit and shall receive a benefit equal to 2/3 of AFC. If a member has more than 26-2/3 years of service, the member will

receive a supplemental disability benefit equal to 2-1/2% of AFC times years of creditable service in excess of 26-2/3 years but not in excess of 40 years. Members commencing service on or after July 1, 2011 are eligible for an accidental disability benefit and shall receive a benefit equal to 2/3 of AFC. If a member has more than 33-1/3 years of service, the member will receive a supplemental disability benefit equal to 2% of AFC times years of creditable service in excess of 33-1/3 years but not in excess of 42.5 years. Members hired prior to July 1, 2011 who have non-vested status as of January 1, 2012 are eligible for an accidental disability benefit and shall receive a benefit equal to 2/3 of AFC. The calculation of the supplemental allowance shall be as provided in the transition provisions with the number of years for the supplement adjusted proportionally.

Ordinary Death Benefit

Eligibility	Death other than accidental death.
Amount of Benefit	<p>(a) If 10 years service or if eligible for service retirement and,</p> <p>(i) if survived by a spouse, 50% of the service retirement benefit payable until death or remarriage.</p> <p>(ii) if no surviving spouse or member designated a beneficiary other than a spouse, a lump sum equal to the greater of \$3,600 or member's annual compensation.</p> <p>(b) If less than 10 years service and not eligible for service retirement, a lump sum equal to the greater of \$3,600 or the member's annual compensation.</p>

Accidental Death Benefit

Eligibility	Accidental death occurring while in the performance of duty.
Amount of Benefit	50% of the annual rate of compensation payable first to spouse until death or remarriage, then to children under age 18 or if no spouse or children, to dependent parent.

Death after Retirement

Retirement Prior to April 1, 1987

Lump sum of \$3,600 unless accidental disability retirement, then surviving spouse receives 50% of the retired member's disability benefits payable until death or remarriage.

Retirement on or after April 1, 1987

Benefit payable to surviving spouse until death or remarriage equal to 50% of the member's service, ordinary disability or accidental disability retirement allowance if member was married on the date of retirement plus a lump sum. The lump sum shall be equal to:

If retired prior to July 1, 1988:	\$ 3,600
If retired on or after July 1, 1988:	
If Group II member as of June 30, 1988	\$10,000
If becomes a Group II member after June 30, 1988 and prior to July 1, 1993	\$ 3,600

Special Death Benefit — Old Firefighter's System

Continuance of duty-connected disability benefits to spouse of deceased retired member payable until death or remarriage.

Vested Deferred Retirement

Eligibility	10 years of service, if no withdrawal of contributions.
Amount of Benefit	A benefit determined as for service retirement payable when the member would be age 45 with 20 years of service or age 60 if earlier.

Return of Members' Contributions

- (a) Upon termination of service other than for retirement or death, and if vested deferred retirement has not been elected, the member's accumulated contributions are returned to the member.
- (b) Upon accidental death or upon other death for which no surviving spouse's benefit is payable, the member's accumulated contributions will be paid to the member's beneficiary or estate.
- (c) Upon death of a member on vested deferred retirement prior to the time benefits commence, the member's accumulated contributions will be paid to the member's beneficiary or estate.
- (d) Upon death of the survivor of a member retired on accidental disability and his spouse in receipt of the accidental disability survivor benefit, the excess of the member's accumulated contributions at retirement over the benefits received by the member and the spouse will be paid to the beneficiary or estate.
- (e) Upon death of a retired member (or the survivor of a retired member, if an optional benefit was elected), the excess of accumulated contributions at retirement over the benefits received by the retired member (and, in the case of election of an optional benefit, the benefits received by the survivor) will be paid to the beneficiary or estate of the member.

3—CONTRIBUTIONS**GROUP I MEMBERS (EMPLOYEES AND TEACHERS)**

By Members	7.0% of earnable compensation. Interest on member contributions shall be 2 percentage points less than either the most recent Board of Trustees approved assumed rate of return determined under RSA 100-A:16, II(g) or the actual rate of return, whichever is lower.
By Local Employer	
For Employee Members	100% of the normal contribution rate for their employees, plus accrued liability contributions, if any.
For Teacher Members	100% of the normal contribution rate for their employees, plus accrued liability contributions, if any.
By the State	
For Employee Members	100% of the normal contribution rate for its employees, plus accrued liability contributions, if any.
For Teacher Members	100% of the normal contribution rate for teachers employed by local employers, plus accrued liability contributions, if any.

GROUP II MEMBERS (POLICE OFFICERS AND FIREFIGHTERS)

By Members	
Firefighters	11.80% of earnable compensation.
Police Officers	11.55% of earnable compensation.
By Local Employer	100% of the normal contribution rate for their employees, plus accrued liability contributions, if any.
By the State	100% of both the normal and accrued liability contributions, if any.

OPEB PLAN PROVISIONS

Medical subsidy benefits provided under the OPEB plan are as follows:

	Monthly Amounts	
	Pre-65	Post-65
Single	\$375.56	\$236.84
Couple	\$751.12	\$473.68

The amounts above will not increase.

The following Group I members and their qualified spouses are eligible for coverage under the postemployment medical plan if they are receiving health coverage under the group plan offered by their former employer:

- Employee and teacher members of political subdivisions who were eligible to retire as of July 1, 2008 and who actually retired on or before July 1, 2009, on Service, Early Service, Vested Deferred or Ordinary Disability retirement after completing at least 20 years of creditable service and who subsequently attain age 60 or after completing at least 30 years of creditable service and who subsequently attain age 55.
- Employee and teacher members of political subdivisions who retired on Accidental Disability Retirement on or before July 1, 2004.
- Employee members of the State who retired on or before July 1, 2004, on Service, Ordinary Disability or Vested Deferred Retirement become eligible for the medical subsidy at age 60 with at least 20 years of creditable service; or as early as age 55 with at least 30 years of creditable service.
- Surviving spouses of deceased employee and teacher members of political subdivisions who die while in service, provided that such surviving spouse was covered as the member's spouse in the employer-sponsored plan before the member's death and is entitled to a monthly allowance under Accidental Death, Ordinary Death, or an Optional Allowance.
- Surviving spouses and children of employee and teacher members of political subdivisions and employee members of the State who die as the natural and proximate result of injuries suffered while in the performance of duty. Eligibility for the medical subsidy ceases when the dependent child attains age 18 or age 23, if attending school on a full-time basis, or upon the spouse's remarriage.
- Vested terminated employee members of the State (and spouses) who completed at least 20 years of creditable service and as of July 1, 2004 received an allowance and who subsequently attain age 60.
- Employee members of the State (and spouses) who retired on or before July 1, 2004 after completing at least 20 years of creditable service and who subsequently attained age 60; or after completing at least 30 years of creditable service and who subsequently attained age 55.
- Surviving spouses of deceased employee members of the State who died while in service on or before July 1, 2004, provided that such surviving spouse was covered as the member's spouse in the employer-sponsored plan before the member's death and is entitled to a monthly allowance under Accidental Death, Ordinary Death, or an Optional Allowance.

The following Group II members are eligible for the postemployment medical plan:

- Group II police officer members (or beneficiaries) who are active or retired as of June 30, 2000.
- Group II firefighter members (or beneficiaries) who are active or retired as of June 30, 2000.
- Persons who prior to July 1, 1988, had completed at least 20 years of Group II service and were eligible as of July 1, 1993 for a vested deferred retirement benefit.
- Group II members retired as of July 1, 1991 with a split benefit under RSA 100-A:19-c who had at least 10 years of Group II service.
- Group II members as of June 30, 2005 who subsequently became disabled while in the performance of duty at any time in the future.
- Surviving spouses of deceased Group II members who retired prior to April 1, 1987 and who are not receiving a monthly allowance.

NEW HAMPSHIRE RETIREMENT SYSTEM

STATISTICAL SECTION

[CLICK HERE TO RETURN TO INDEX](#)

**STATISTICAL
SECTION
SUMMARY**

The schedules that follow in this Statistical Section contain statistical and historical data that is considered useful in assessing the economic condition of the Pension and OPEB plan and for evaluating financial and demographic trends over longer periods of time. Included in this section are the following schedules:

- Schedules of Changes in Net Position for both plans for the past ten years
- Schedules of Benefit and Refund Deductions for both plans over the past ten years
- Schedules of Retired Members by Type of Benefit for both plans
- Schedules of Average Benefit Payment Amounts for both plans
- Schedules of the Principal Participating Employers for both plans
- A Listing of Participating Employers

The NHRS has prepared the data presented for the Changes in Net Position schedules, Benefit and Refund Deduction schedules, the Principal Participating Employers schedules and the Listing of Participating Employers. The schedules of Retired Members by Type of Benefit and the Schedules of Average Benefit Payments Amounts were prepared by the NHRS's actuary.

The investment climate over the past decade has been volatile. Investment returns for fiscal year 2020 (1.1%), fiscal year 2019 (5.7%), fiscal year 2018 (8.9%), and fiscal year 2017 (13.5%) have offset the losses experienced during the economic crisis and recession of fiscal years 2008–2009. Investment returns were positive overall for the decade and net investment income was able to achieve results above the assumed investment return assumption for that period. In absolute dollars, employer contributions to the pension plan have risen 62% over the decade, member contributions to the pension plan were 33% lower a decade ago. Pension benefits rose 57% over the decade. OPEB contributions have increased 41% and benefits paid have decreased 20% over the decade.

The number of NHRS retirees continues to grow along with the average annual pension benefits paid out. The active membership rolls have remained fairly static throughout the decade and have increased slightly in fiscal year 2020. The number of participating employers remains stable.

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

SCHEDULE OF CHANGES IN NET POSITION

CHANGES IN NET POSITION — PENSION PLAN LAST TEN FISCAL YEARS

	FY 2020	FY 2019	FY 2018	FY 2017
Additions:				
Employer Contributions	\$ 445,021	\$ 434,407	\$ 422,659	\$ 366,653
Member Contributions	229,726	223,995	217,572	213,061
Net Investment Income (Loss)	101,039	488,272	717,089	978,246
Net Position Transfers	—	—	—	—
Other	—	—	—	—
Total Additions to Net Position	\$ 775,786	\$ 1,146,674	\$ 1,357,320	\$ 1,557,960
Deductions:				
Pension Benefits	\$ 816,708	\$ 780,907	\$ 741,753	\$ 706,304
Refunds of Contributions	23,312	23,464	24,010	23,408
Administrative Expense	8,282	7,436	7,767	7,671
Professional Fees	656	686	687	644
Other	237	275	224	263
Total Deductions from Net Position	\$ 849,195	\$ 812,768	\$ 774,441	\$ 738,290
Change in Net Position	\$ (73,409)	\$ 333,906	\$ 582,879	\$ 819,670

CHANGES IN NET POSITION OPEB PLAN — LAST TEN FISCAL YEARS

	FY 2020	FY 2019	FY 2018	FY 2017
Additions:				
Employer Contributions	\$ 46,460	\$ 45,509	\$ 44,194	\$ 59,197
Net Investment Income (Loss)	396	1,979	3,129	4,045
Net Position Transfers	—	—	—	—
Other	—	—	—	—
Total Additions to Net Position	\$ 46,856	\$ 47,488	\$ 47,323	\$ 63,242
Deductions:				
Benefits Paid	\$ 46,816	\$ 47,798	\$ 49,251	\$ 50,560
Net Position Transfers	—	—	—	—
Administrative Expense	169	152	33	32
Professional Fees	2	2	3	4
Other	1	1	1	—
Total Deductions from Net Position	\$ 46,988	\$ 47,953	\$ 49,288	\$ 50,596
Change in Net Position	\$ (132)	\$ (465)	\$ (1,965)	\$ 12,646

(in thousands)					
FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011
\$ 357,482	\$ 332,294	\$ 328,444	\$ 249,835	\$ 254,557	\$ 274,582
207,949	204,063	199,033	196,489	199,593	152,412
61,878	249,806	1,092,585	813,671	19,811	1,121,460
—	—	—	—	—	—
—	—	—	111	—	13,399
\$ 627,309	\$ 786,163	\$ 1,620,062	\$ 1,260,106	\$ 473,961	\$ 1,561,853
\$ 670,360	\$ 631,312	\$ 599,476	\$ 573,469	\$ 547,051	\$ 519,970
24,233	26,345	26,120	23,191	26,535	22,830
7,061	7,582	7,377	6,999	6,261	7,312
950	1,318	1,080	972	1,162	1,425
313	308	366	818	50	743
\$ 702,917	\$ 666,865	\$ 634,419	\$ 605,449	\$ 581,059	\$ 552,280
\$ (75,608)	\$ 119,298	\$ 985,643	\$ 654,657	(\$ 107,098)	\$ 1,009,573

(in thousands)					
FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011
\$ 58,174	\$ 48,915	\$ 48,881	\$ 49,712	\$ 48,964	\$ 32,901
148	1,119	5,381	4,490	(164)	10,194
—	—	—	—	—	—
—	—	—	—	—	122
\$ 58,322	\$ 50,034	\$ 54,262	\$ 54,202	\$ 48,800	\$ 43,217
\$ 51,805	\$ 53,297	\$ 53,811	\$ 55,146	\$ 58,599	\$ 59,863
—	—	—	—	—	—
17	34	36	1,028	(23)	67
2	5	5	5	(33)	13
1	2	1	4	(5)	7
\$ 51,825	\$ 53,338	\$ 53,853	\$ 56,183	\$ 58,538	\$ 59,950
\$ 6,497	\$ (3,304)	\$ 409	\$ (1,981)	\$ (9,738)	\$ (16,733)

SCHEDULE OF BENEFIT AND REFUND DEDUCTIONS BY TYPE

BENEFIT AND REFUND DEDUCTIONS BY TYPE – PENSION PLAN LAST TEN FISCAL YEARS

	FY 2020	FY 2019	FY 2018	FY 2017
Type of Benefit				
Age and Service Benefits:				
Service Retirement	\$ 518,060	\$ 491,781	\$ 452,862	\$ 425,306
Early Retirement	176,605	171,766	168,717	166,373
Survivors	38,083	43,832	41,693	39,420
Vested Deferred	34,261	31,554	29,321	27,581
Other	14,234	13,432	12,624	12,066
Death in Service Benefit	3,190	3,495	2,396	2,314
Disability Benefits				
Duty Related	20,615	22,594	22,216	21,843
Non Duty Related	9,322	10,027	9,772	9,410
Survivors	2,338	2,426	2,152	1,991
Total Benefits	\$ 816,708	\$ 780,907	\$ 741,753	\$ 706,304
Type of Refund				
Separation	\$ 18,393	\$ 18,768	\$ 18,504	\$ 19,032
Death	4,912	4,696	5,507	4,376
Total Refunds	\$ 23,312	\$ 23,464	\$ 24,011	\$ 23,408

BENEFIT AND REFUND DEDUCTIONS BY TYPE – OPEB PLAN LAST TEN FISCAL YEARS

	FY 2020	FY 2019	FY 2018	FY 2017
OPEB PLAN				
Type of Benefit				
Medical Subsidy Payments	\$ 46,816	\$ 47,798	\$ 49,251	\$ 50,560
Total Benefits	\$ 46,816	\$ 47,798	\$ 49,251	\$ 50,560

(in thousands)					
FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011
\$ 398,056	\$ 368,298	\$ 344,810	\$ 325,542	\$ 308,230	\$ 287,736
162,987	159,342	156,539	154,821	150,023	145,483
36,989	34,572	32,444	30,738	29,128	28,986
25,937	24,161	22,463	20,730	19,446	19,217
11,201	10,421	9,585	8,800	7,826	6,803
2,608	2,430	1,744	1,719	1,800	1,654
21,599	21,152	20,837	20,674	20,374	19,769
9,200	9,047	9,080	8,787	8,581	8,676
1,783	1,889	1,974	1,658	1,643	1,646
\$ 670,360	\$ 631,312	\$ 599,476	\$ 573,469	\$ 547,051	\$ 519,970
\$ 18,856	\$ 20,121	\$ 21,429	\$ 18,133	\$ 20,299	\$ 18,362
5,377	6,224	4,691	5,058	6,236	4,468
\$ 24,233	\$ 26,345	\$ 26,120	\$ 23,191	\$ 26,535	\$ 22,830

(in thousands)					
FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011
\$ 51,805	\$ 53,298	\$ 53,145	\$ 55,145	\$ 58,599	\$ 59,863
\$ 51,805	\$ 53,298	\$ 53,145	\$ 55,145	\$ 58,599	\$ 59,863

SCHEDULE OF RETIRED AND VESTED MEMBERS BY TYPE OF BENEFIT

SCHEDULE OF RETIRED AND VESTED MEMBERS BY TYPE OF BENEFITS AS OF JUNE 30, 2020 PENSION PLAN

		Type of Retirement*						
Amount of Monthly Benefit	Number of Retirees	1	2	3	4	5	6	7
EMPLOYEES								
1–500	5,226	4,296	48	2	15	—	594	271
501–1,000	5,906	4,471	260	103	13	2	469	588
1,001–1,500	3,677	2,831	85	231	14	4	219	293
1,501–2,000	2,203	1,801	28	103	6	3	126	136
2,001–2,500	1,362	1,182	10	28	—	2	85	55
2,501–3,000	883	781	6	10	2	1	52	31
3,001–3,500	563	518	—	7	2	—	22	14
3,501–4,000	420	392	2	1	—	—	18	7
Over 4,000	596	562	2	2	4	—	19	7
Totals	20,836	16,834	441	487	56	12	1,604	1,402

TEACHERS

\$1-500	1,407	1,262	1	—	—	—	92	52
501-1,000	2,381	1,724	32	—	5	—	157	463
1,001-1,500	2,267	1,756	76	3	6	—	121	305
1,501-2,000	2,240	1,924	31	4	9	—	124	148
2,001-2,500	2,181	1,992	17	10	—	1	94	67
2,501-3,000	1,704	1,593	8	4	—	—	66	33
3,001-3,500	1,424	1,343	3	2	—	—	59	17
3,501-4,000	859	826	—	—	2	—	22	9
Over 4,000	835	807	—	—	1	—	21	6
Totals	15,298	13,227	168	23	23	1	756	1,100

POLICE OFFICERS

\$1-500	259	193	—	—	—	1	38	27
501-1,000	365	203	12	1	1	—	140	8
1,001-1,500	426	198	24	3	2	1	163	35
1,501-2,000	375	221	19	31	2	1	76	25
2,001-2,500	418	296	11	58	1	1	30	21
2,501-3,000	448	314	2	92	—	—	33	7
3,001-3,500	417	352	1	42	2	3	13	4
3,501-4,000	368	315	4	34	1	—	10	4
Over 4,000	1,284	1,202	2	62	2	1	13	2
Totals	4,360	3,294	75	323	11	8	516	133

FIREFIIGHTERS

\$1-500	57	29	—	—	—	2	21	5
501-1,000	101	42	2	—	—	—	56	1
1,001-1,500	178	72	7	2	1	3	81	12
1,501-2,000	155	67	7	7	—	1	71	2
2,001-2,500	166	100	7	17	1	3	35	3
2,501-3,000	164	128	3	23	—	—	9	1
3,001-3,500	168	143	—	18	—	2	4	1
3,501-4,000	155	141	—	10	—	1	2	1
Over 4,000	635	606	—	17	1	—	11	—
Totals	1,779	1,328	26	94	3	12	290	26

* Type of Retirement: 1—Service and early retirement. 2—Ordinary disability retirement. 3—Accidental disability retirement. 4—Ordinary death in active service. 5—Accidental death in active service. 6—Beneficiaries of deceased members who retired on a service or disability allowance. 7—Vested member with future benefit.

Option Selected #										
No Option	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Other*
3,170	110	359	135	838	317	13	13	—	—	271
3,272	88	456	133	980	369	14	6	—	—	588
1,880	61	348	96	700	286	10	3	—	—	293
1,096	28	218	91	451	173	6	4	—	—	136
600	11	170	56	335	129	2	4	—	—	55
362	17	122	47	202	100	1	1	—	—	31
221	5	101	31	135	54	1	1	—	—	14
157	7	71	31	103	42	2	—	—	—	7
224	5	102	46	134	76	1	1	—	—	7
10,982	332	1,947	666	3,878	1,546	50	33	—	—	1,402

716	22	111	42	356	100	3	5	—	—	52
1,203	35	154	38	387	93	6	2	—	—	463
1,057	40	186	62	465	141	5	6	—	—	305
1,033	43	180	53	557	215	2	9	—	—	148
949	34	203	82	594	239	5	8	—	—	67
712	35	155	59	483	222	1	4	—	—	33
611	20	141	54	428	144	3	6	—	—	17
364	16	103	28	224	114	—	1	—	—	9
388	6	101	37	186	111	—	—	—	—	6
7,033	251	1,334	455	3,680	1,379	25	41	—	—	1,100

161	1	10	14	21	25	—	—	—	—	27
273	5	14	10	21	31	1	2	—	—	8
298	7	15	17	19	35	—	—	—	—	35
226	11	8	25	17	63	—	—	—	—	25
199	17	13	54	16	96	—	2	—	—	21
192	21	14	73	16	124	1	—	—	—	7
150	15	10	97	9	131	—	1	—	—	4
127	8	4	73	9	143	—	—	—	—	4
351	18	14	352	18	526	3	—	—	—	2
1,977	103	102	715	146	1,174	5	5	—	—	133

44	—	2	—	2	4	—	—	—	—	5
95	—	1	—	1	3	—	—	—	—	1
134	4	7	8	8	5	—	—	—	—	12
120	5	5	7	6	10	—	—	—	—	2
93	8	6	20	7	29	—	—	—	—	3
62	8	3	28	9	53	—	—	—	—	1
48	6	4	40	3	66	—	—	—	—	1
51	5	3	30	2	63	—	—	—	—	1
181	11	2	166	6	267	1	1	—	—	—
828	47	33	299	44	500	1	1	—	—	26

Option Selected: No option—Straight life. Option 1—Cash refund. Option 2—100% Joint & Survivorship. Option 3—50% Joint & Survivorship. Option 4—100% Pop-Up. Option 5—50% Pop-Up. Option 6—Other % Joint & Survivorship. Option 7—Other % Pop-Up. Option 8—Fixed amount to Beneficiaries. Option 9—Widow's benefit (accidental disability) 50%

* Elections for vested members with future benefits are made at commencement of benefits.

SCHEDULE OF RETIRED MEMBERS BY TYPE OF BENEFITS AS OF JUNE 30, 2020
OPEB PLAN

Amount of Monthly Benefit	Number of Retirees	One Person		Two Person	
		Pre 65	Post 65	Pre 65	Post 65
TOTAL — OPEB PLAN					
\$1–500	8,068	540	7,336	14	128
501–1,000	1,421	42	389	635	355
1,001–1,500	12	—	3	2	7
1,501–2,000	8	—	—	8	—
Over \$2,000	—	—	—	—	—
Total	9,509	582	7,778	659	490

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

SCHEDULES OF AVERAGE BENEFIT PAYMENT AMOUNTS

SCHEDULE OF AVERAGE BENEFIT PAYMENT AMOUNTS PENSION PLAN – EMPLOYEES

2020 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$333	\$473	\$638	\$958	\$1,248	\$1,717	\$2,534	\$1,184
Average annual benefit	\$3,998	\$5,675	\$7,651	\$11,482	\$14,973	\$20,608	\$30,408	\$14,210
Average final compensation	\$47,221	\$44,300	\$43,143	\$49,404	\$52,773	\$60,083	\$68,462	\$52,218
Number of retired members	1,336*	1,821	4,628	3,245	3,106	2,003	3,287	19,434**

*Includes 361 members who did not have service reported.

**Includes 5,944 members who did not have FAS reported.

2019 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$329	\$465	\$631	\$946	\$1,231	\$1,698	\$2,506	\$1,165
Average annual benefit	\$3,948	\$5,577	\$7,571	\$11,350	\$14,768	\$20,380	\$30,076	\$13,981
Average final compensation	\$46,039	\$43,399	\$42,728	\$48,931	\$51,957	\$59,277	\$67,912	\$51,524
Number of retired members	1,311*	1,796	4,505	3,133	3,002	1,930	3,147	18,824**

*Includes 336 members who did not have service reported.

**Includes 6,128 members who did not have FAS reported.

2018 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$318	\$460	\$625	\$933	\$1,216	\$1,667	\$2,474	\$1,141
Average annual benefit	\$3,818	\$5,520	\$7,496	\$11,200	\$14,588	\$20,000	\$29,685	\$13,693
Average final average salary	\$44,843	\$43,280	\$42,387	\$48,307	\$51,342	\$58,159	\$67,251	\$50,683
Number of retired members	1,296*	1,810	4,393	2,957	2,900	1,835	3,002	18,193**

*Includes 332 members who did not have service reported.

**Includes 6,341 members who did not have FAS reported.

2017 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$313	\$453	\$618	\$919	\$1,197	\$1,636	\$2,443	\$1,121
Average annual benefit	\$3,758	\$5,442	\$7,415	\$11,030	\$14,364	\$19,637	\$29,321	\$13,451
Average final average salary	\$43,797	\$42,845	\$41,884	\$47,851	\$50,369	\$56,958	\$66,591	\$50,123
Number of retired members	1,264*	1,779	4,275	2,833	2,793	1,740	2,889	17,573**

*Includes 310 members who did not have service reported.

**Includes 6,504 members who did not have FAS reported.

2016 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$310	\$460	\$634	\$957	\$1,253	\$1,757	\$2,575	\$1,152
Average annual benefit	\$3,724	\$5,516	\$7,613	\$11,481	\$15,038	\$21,084	\$30,898	\$13,823
Average final average salary	\$42,832	\$42,359	\$41,637	\$47,544	\$49,410	\$52,267	\$65,846	\$49,468
Number of retired members	1,260*	1,706	4,007	2,573	2,520	1,514	2,562	16,142**

*Includes 292 members who did not have service reported.

**Includes 5,892 members who did not have FAS reported.

2015 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$299	\$451	\$622	\$941	\$1,234	\$1,718	\$2,519	\$1,122
Average annual benefit	\$3,592	\$5,409	\$7,466	\$11,288	\$14,811	\$20,622	\$30,227	\$13,462
Average final average salary	\$44,554	\$43,186	\$41,904	\$47,573	\$49,030	\$55,589	\$64,928	\$49,559
Number of retired members	1,227*	1,638	3,881	2,457	2,448	1,419	2,413	15,483**

*Includes 273 members who did not have service reported.

**Includes 6,453 members who did not have FAS reported.

2014		Years Credited Service						
Service	0-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	Total
Average monthly benefit	\$326	\$418	\$591	\$878	\$1,158	\$1,568	\$2,319	\$1,078
Average annual benefit	\$3,911	\$5,019	\$7,088	\$10,532	\$13,902	\$18,812	\$27,833	\$12,932
Average final average salary	\$35,623	\$41,017	\$41,061	\$46,293	\$48,678	\$55,009	\$64,041	\$48,488
Number of retired members	992 *	1,497	3,835	2,426	2,546	1,475	2,543	15,314 **

* Includes 192 members who did not have service reported.

** Includes 7,334 members who did not have FAS reported.

2013		Years Credited Service						
Service	0-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	Total
Average monthly benefit	\$324	\$409	\$584	\$863	\$1,150	\$1,558	\$2,303	\$1,063
Average annual benefit	\$3,883	\$4,906	\$7,013	\$10,359	\$13,801	\$18,691	\$27,633	\$12,758
Average final average salary	\$35,604	\$39,229	\$40,738	\$45,238	\$47,897	\$54,324	\$63,541	\$47,906
Number of retired members	968 *	1,444	3,705	2,345	2,434	1,394	2,422	14,712 **

* Includes 172 members who did not have service reported.

** Includes 7,506 members who did not have FAS reported.

2012		Years Credited Service						
Service	0-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	Total
Average monthly benefit	\$343	\$400	\$576	\$854	\$1,142	\$1,535	\$2,274	\$1,049
Average annual benefit	\$4,114	\$4,804	\$6,911	\$10,243	\$13,706	\$18,421	\$27,284	\$12,591
Average final average salary	\$34,356	\$38,505	\$39,797	\$44,567	\$46,998	\$52,948	\$62,444	\$47,037
Number of retired members	992 *	1,389	3,511	2,261	2,340	1,323	2,325	14,141 **

* Includes 194 members who did not have service reported.

** Includes 7,748 members who did not have FAS reported.

2011		Years Credited Service						
Service	0-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	Total
Average monthly benefit	\$336	\$393	\$571	\$837	\$1,126	\$1,519	\$2,257	\$1,039
Average annual benefit	\$4,032	\$4,719	\$6,856	\$10,049	\$13,517	\$18,228	\$27,079	\$12,474
Average final average salary	\$32,512	\$37,153	\$38,954	\$43,438	\$45,838	\$51,964	\$61,282	\$46,178
Number of retired members	936 *	1,341	3,334	2,144	2,226	1,277	2,229	13,487 **

* Includes 172 members who did not have service reported.

** Includes 7,913 members who did not have FAS reported.

2010		Years Credited Service						
Service	0-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	Total
Average monthly benefit	\$335	\$386	\$561	\$822	\$1,110	\$1,495	\$2,222	\$1,017
Average annual benefit	\$4,017	\$4,632	\$6,738	\$9,861	\$13,321	\$17,938	\$26,660	\$12,208
Average final average salary	\$32,068	\$35,498	\$37,739	\$41,663	\$44,745	\$50,812	\$60,543	\$45,062
Number of retired members	900 *	1,291	3,169	2,059	2,091	1,213	2,079	12,802 **

* Includes 161 members who did not have service reported.

** Includes 8,088 members who did not have FAS reported.

**SCHEDULE OF AVERAGE BENEFIT PAYMENT AMOUNTS
PENSION PLAN – TEACHERS**

2020 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$521	\$575	\$754	\$1,183	\$1,546	\$1,964	\$2,857	\$1,872
Average annual benefit	\$6,256	\$6,897	\$9,046	\$14,191	\$18,553	\$23,573	\$34,286	\$22,466
Average final compensation	\$53,539	\$58,164	\$52,193	\$61,708	\$66,165	\$70,452	\$75,239	\$67,196
Number of retired members	317*	380	1,704	1,843	2,749	2,356	4,849	14,198**

* Includes 153 members who did not have service reported.

** Includes 4,610 members who did not have FAS reported.

2019 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$511	\$573	\$748	\$1,166	\$1,529	\$1,948	\$2,829	\$1,853
Average annual benefit	\$6,131	\$6,878	\$8,974	\$13,995	\$18,350	\$23,382	\$33,948	\$22,236
Average final compensation	\$53,185	\$58,121	\$51,835	\$61,061	\$65,406	\$69,802	\$74,587	\$66,591
Number of retired members	312*	377	1,657	1,751	2,661	2,291	4,691	13,740**

* Includes 147 members who did not have service reported.

** Includes 4,689 members who did not have FAS reported.

2018 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$504	\$574	\$742	\$1,154	\$1,513	\$1,940	\$2,796	\$1,836
Average annual benefit	\$6,050	\$6,882	\$8,906	\$13,850	\$18,160	\$23,278	\$33,551	\$22,025
Average final average salary	\$51,800	\$57,933	\$51,273	\$60,591	\$64,454	\$69,267	\$73,802	\$65,890
Number of retired members	298*	366	1,611	1,660	2,542	2,227	4,519	13,223**

* Includes 139 members who did not have service reported.

** Includes 4,747 members who did not have FAS reported.

2017 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$504	\$573	\$733	\$1,140	\$1,502	\$1,927	\$2,765	\$1,817
Average annual benefit	\$6,051	\$6,870	\$8,799	\$13,679	\$18,018	\$23,127	\$33,176	\$21,804
Average final average salary	\$52,263	\$57,449	\$50,750	\$59,866	\$63,691	\$68,520	\$72,099	\$65,211
Number of retired members	292*	360	1,556	1,557	2,437	2,165	4,329	12,696**

* Includes 135 members who did not have service reported.

** Includes 4,808 members who did not have FAS reported.

2016 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$499	\$586	\$755	\$1,193	\$1,626	\$2,097	\$2,905	\$1,928
Average annual benefit	\$5,986	\$7,029	\$9,065	\$14,316	\$19,508	\$25,166	\$34,860	\$23,134
Average final average salary	\$51,934	\$56,982	\$49,999	\$59,017	\$62,964	\$67,641	\$72,517	\$64,533
Number of retired members	278*	333	1,422	1,375	2,161	1,897	\$3,944	\$11,410**

* Includes 125 members who did not have service reported.

** Includes 4,080 members who did not have FAS reported.

2015 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$485	\$570	\$743	\$1,172	\$1,603	\$2,072	\$2,883	\$1,913
Average annual benefit	\$5,825	\$6,840	\$8,919	\$14,059	\$19,239	\$24,868	\$34,595	\$22,961
Average final average salary	\$52,242	\$56,107	\$49,238	\$58,293	\$62,540	\$67,126	\$71,943	\$64,076
Number of retired members	259*	307	1,346	1,280	2,079	1,808	3,780	10,859**

* Includes 108 members who did not have service reported.

** Includes 4,203 members who did not have FAS reported.

2014 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$457	\$531	\$702	\$1,081	\$1,459	\$1,872	\$2,702	\$1,783
Average annual benefit	\$5,480	\$6,367	\$8,419	\$12,976	\$17,506	\$22,467	\$32,419	\$21,401
Average final average salary	\$51,979	\$56,039	\$48,107	\$57,182	\$61,625	\$66,117	\$71,311	\$63,299
Number of retired members	239 *	289	1,342	1,241	2,126	1,889	3,839	10,965 **

* Includes 100 members who did not have service reported.

** Includes 4,974 members who did not have FAS reported.

2013 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$433	\$526	\$691	\$1,051	\$1,454	\$1,862	\$2,686	\$1,780
Average annual benefit	\$5,200	\$6,315	\$8,295	\$12,615	\$17,451	\$22,347	\$32,229	\$21,355
Average final average salary	\$51,604	\$55,373	\$47,276	\$55,688	\$60,708	\$64,999	\$70,712	\$62,669
Number of retired members	214 *	255	1,260	1,155	2,045	1,795	3,683	10,407 **

* Includes 86 members who did not have service reported.

** Includes 5,020 members who did not have FAS reported.

2012 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$434	\$491	\$684	\$1,039	\$1,447	\$1,856	\$2,673	\$1,777
Average annual benefit	\$5,203	\$5,892	\$8,214	\$12,473	\$17,363	\$22,272	\$32,080	\$21,320
Average final average salary	\$51,428	\$53,206	\$46,917	\$54,779	\$59,762	\$64,214	\$70,113	\$62,128
Number of retired members	207 *	236	1,190	1,100	1,951	1,703	3,569	9,956 **

* Includes 88 members who did not have service reported.

** Includes 5,098 members who did not have FAS reported.

2011 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$432	\$484	\$670	\$1,023	\$1,439	\$1,848	\$2,664	\$1,777
Average annual benefit	\$5,185	\$5,804	\$8,044	\$12,271	\$17,272	\$22,178	\$31,972	\$21,321
Average final average salary	\$50,528	\$53,243	\$45,371	\$53,207	\$58,790	\$63,226	\$69,426	\$61,398
Number of retired members	188 *	214	1,111	1,021	1,859	1,608	3,426	9,427 **

* Includes 79 members who did not have service reported.

** Includes 5,148 members who did not have FAS reported.

2010 Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$417	\$478	\$664	\$1,005	\$1,435	\$1,847	\$2,656	\$1,781
Average annual benefit	\$5,001	\$5,733	\$7,970	\$12,064	\$17,224	\$22,162	\$31,869	\$21,375
Average final average salary	\$50,790	\$52,875	\$44,197	\$51,833	\$57,897	\$62,372	\$68,973	\$60,970
Number of retired members	171 *	203	1,040	965	1,793	1,570	3,345	9,087 **

* Includes 72 members who did not have service reported.

** Includes 5,182 members who did not have FAS reported.

**SCHEDULE OF AVERAGE BENEFIT PAYMENT AMOUNTS
PENSION PLAN – POLICE OFFICERS**

2020 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$1,006	\$1,412	\$1,622	\$2,373	\$3,259	\$4,773	\$6,369	\$3,113
Average annual benefit	\$12,070	\$16,949	\$19,451	\$28,475	\$39,111	\$57,277	\$76,430	\$37,357
Average final compensation	\$54,972	\$57,300	\$56,107	\$69,655	\$84,335	\$97,751	\$109,507	\$81,762
Number of retired members	462*	205	466	410	1,696	717	271	4,227**

* Includes 320 members who did not have service reported.

** Includes 1,803 members who did not have FAS reported.

2019 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$988	\$1,428	\$1,626	\$2,327	\$3,215	\$4,715	\$6,287	\$3,076
Average annual benefit	\$11,856	\$17,134	\$19,510	\$27,928	\$38,585	\$56,579	\$75,445	\$36,908
Average final compensation	\$53,911	\$57,433	\$55,574	\$68,749	\$82,921	\$97,193	\$108,491	\$80,632
Number of retired members	441*	206	458	388	1,626	703	260	4,082**

* Includes 298 members who did not have service reported.

** Includes 1,794 members who did not have FAS reported.

2018 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$975	\$1,394	\$1,625	\$2,276	\$3,175	\$4,664	\$6,186	\$3,027
Average annual benefit	\$11,697	\$16,728	\$19,503	\$27,317	\$38,095	\$55,973	\$74,231	\$36,328
Average final average salary	\$53,160	\$57,073	\$55,252	\$67,465	\$81,875	\$96,419	\$108,214	\$79,703
Number of retired members	423*	205	444	369	1,564	675	243	3,923**

* Includes 274 members who did not have service reported.

** Includes 1,791 members who did not have FAS reported.

2017 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$979	\$1,368	\$1,623	\$2,230	\$3,135	\$4,611	\$6,184	\$2,992
Average annual benefit	\$11,744	\$16,412	\$19,473	\$26,759	\$37,625	\$55,333	\$74,205	\$35,903
Average final average salary	\$52,922	\$56,688	\$55,024	\$66,556	\$81,206	\$95,886	\$108,399	\$79,145
Number of retired members	404*	206	437	354	1,499	653	233	3,786**

* Includes 263 members who did not have service reported.

** Includes 1,801 members who did not have FAS reported.

2016 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$966	\$1,424	\$6,619	\$2,253	\$3,089	\$4,554	\$6,144	\$2,978
Average annual benefit	\$11,828	\$17,092	\$19,428	\$27,032	\$37,065	\$54,651	\$73,724	\$35,737
Average final average salary	\$52,067	\$56,071	\$54,163	\$65,196	\$80,290	\$95,097	\$107,758	\$78,292
Number of retired members	384*	188	418	326	1,458	633	222	3,629**

* Includes 245 members who did not have service reported.

** Includes 1,771 members who did not have FAS reported.

2015 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$929	\$1,380	\$1,607	\$2,256	\$3,032	\$4,501	\$5,999	\$2,917
Average annual benefit	\$11,149	\$16,561	\$19,287	\$27,067	\$36,380	\$54,010	\$71,987	\$35,002
Average final average salary	\$53,397	\$57,211	\$53,878	\$64,646	\$78,872	\$94,266	\$107,053	\$77,621
Number of retired members	362*	188	396	314	1,395	599	203	3,457**

* Includes 222 members who did not have service reported.

** Includes 1,785 members who did not have FAS reported.

2014		Years Credited Service						Total
Service	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$1,003	\$1,380	\$1,519	\$2,111	\$2,964	\$4,362	\$5,623	\$2,929
Average annual benefit	\$12,039	\$16,555	\$18,226	\$25,335	\$35,571	\$52,347	\$67,472	\$35,154
Average final average salary	\$42,303	\$51,636	\$49,456	\$60,358	\$76,729	\$90,857	\$99,377	\$77,381
Number of retired members	286 *	160	355	270	1,383	601	227	3,282 **

* Includes 190 members who did not have service reported.

** Includes 1,816 members who did not have FAS reported.

2013		Years Credited Service						Total
Service	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$989	\$1,402	\$1,525	\$2,096	\$2,937	\$4,304	\$5,557	\$2,905
Average annual benefit	\$11,867	\$16,827	\$18,305	\$25,149	\$35,240	\$51,642	\$66,680	\$34,859
Average final average salary	\$43,717	\$51,752	\$49,166	\$60,656	\$76,404	\$90,096	\$98,639	\$77,294
Number of retired members	273 *	159	336	271	1,319	584	221	3,163 **

* Includes 177 members who did not have service reported.

** Includes 1,825 members who did not have FAS reported.

2012		Years Credited Service						Total
Service	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$986	\$1,414	\$1,520	\$2,101	\$2,936	\$4,235	\$5,469	\$2,894
Average annual benefit	\$11,835	\$16,968	\$18,238	\$25,218	\$35,230	\$50,824	\$65,631	\$34,731
Average final average salary	\$43,717	\$51,792	\$48,430	\$59,074	\$75,343	\$89,117	\$98,085	\$76,294
Number of retired members	238 *	151	325	255	1,255	547	210	2,981 **

* Includes 145 members who did not have service reported.

** Includes 1,766 members who did not have FAS reported.

2011		Years Credited Service						Total
Service	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$957	\$1,386	\$1,482	\$2,072	\$2,893	\$4,082	\$5,432	\$2,823
Average annual benefit	\$11,485	\$16,635	\$17,788	\$24,867	\$34,719	\$48,981	\$65,188	\$33,876
Average final average salary	\$47,377	\$52,498	\$46,123	\$58,423	\$74,403	\$87,050	\$97,076	\$75,213
Number of retired members	230 *	149	314	251	1,218	523	195	2,880 **

* Includes 140 members who did not have service reported.

** Includes 1,794 members who did not have FAS reported.

2010		Years Credited Service						Total
Service	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$942	\$1,352	\$1,483	\$2,034	\$2,845	\$3,940	\$5,114	\$2,724
Average annual benefit	\$11,310	\$16,222	\$17,792	\$24,413	\$34,137	\$47,277	\$61,371	\$32,689
Average final average salary	\$44,656	\$50,016	\$45,342	\$57,278	\$70,960	\$85,452	\$93,848	\$72,439
Number of retired members	218 *	145	305	241	1,140	482	171	2,702 **

* Includes 129 members who did not have service reported.

** Includes 1,814 members who did not have FAS reported.

**SCHEDULE OF AVERAGE BENEFIT PAYMENT AMOUNTS
PENSION PLAN – FIREFIGHTERS**

2020 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$1,177	\$1,311	\$1,810	\$2,363	\$2,290	\$4,372	\$6,449	\$3,447
Average annual benefit	\$14,121	\$15,731	\$21,718	\$28,355	\$35,040	\$52,461	\$77,385	\$41,365
Average final compensation	\$61,360	\$65,855	\$63,385	\$77,517	\$81,246	\$94,282	\$105,160	\$88,316
Number of retired members	162*	36	101	146	640	433	235	1,753**

* Includes 141 members who did not have service reported.

** Includes 893 members who did not have FAS reported.

2019 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$1,158	\$1,323	\$1,797	\$2,268	\$2,886	\$4,321	\$6,369	\$3,384
Average annual benefit	\$13,896	\$15,880	\$21,566	\$27,218	\$34,626	\$51,853	\$76,427	\$40,606
Average final compensation	\$59,820	\$59,140	\$62,631	\$73,625	\$80,335	\$93,449	\$104,172	\$87,185
Number of retired members	163*	33	101	137	629	421	222	1,706**

* Includes 144 members who did not have service reported.

** Includes 903 members who did not have FAS reported.

2018 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$1,157	\$1,364	\$1,841	\$2,226	\$2,836	\$4,221	\$6,203	\$3,314
Average annual benefit	\$13,884	\$16,363	\$22,089	\$26,713	\$34,027	\$50,652	\$74,438	\$39,764
Average final average salary	\$56,847	\$57,722	\$62,269	\$71,690	\$79,817	\$92,171	\$102,765	\$86,094
Number of retired members	158*	31	99	132	624	418	211	1,673**

* Includes 139 members who did not have service reported.

** Includes 920 members who did not have FAS reported.

2017 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$1,154	\$1,407	\$1,830	\$2,189	\$2,788	\$4,165	\$6,055	\$3,253
Average annual benefit	\$13,843	\$16,879	\$21,957	\$26,625	\$33,456	\$49,985	\$72,654	\$39,033
Average final average salary	\$55,226	\$59,323	\$61,155	\$69,692	\$79,089	\$91,311	\$101,821	\$85,145
Number of retired members	150*	31	96	129	625	406	202	1,639**

* Includes 131 members who did not have service reported.

** Includes 931 members who did not have FAS reported.

2016 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$1,147	\$1,353	\$1,789	\$2,185	\$2,765	\$4,138	\$5,965	\$3,213
Average annual benefit	\$13,768	\$16,230	\$21,466	\$26,218	\$33,174	\$49,655	\$71,577	\$38,553
Average final average salary	\$55,226	\$57,997	\$60,126	\$70,005	\$78,510	\$91,235	\$100,861	\$84,646
Number of retired members	143*	30	96	125	617	391	193	1,595**

* Includes 124 members who did not have service reported.

** Includes 935 members who did not have FAS reported.

2015 Service	Years Credited Service						30 or more yrs.	Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.		
Average monthly benefit	\$1,132	\$1,417	\$1,750	\$2,114	\$2,735	\$4,101	\$5,681	\$3,130
Average annual benefit	\$13,579	\$17,007	\$20,997	\$25,371	\$32,821	\$49,215	\$68,168	\$37,557
Average final average salary	\$55,075	\$59,425	\$61,768	\$68,985	\$77,441	\$90,785	\$96,758	\$83,520
Number of retired members	139*	30	91	119	611	389	172	1,551**

* Includes 120 members who did not have service reported.

** Includes 949 members who did not have FAS reported.

2014								
Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$1,068	\$1,450	\$1,724	\$2,004	\$2,687	\$3,997	\$5,494	\$3,047
Average annual benefit	\$12,812	\$17,405	\$20,686	\$24,051	\$32,249	\$47,960	\$65,932	\$35,562
Average final average salary	\$45,602	\$64,928	\$56,150	\$65,849	\$75,732	\$89,221	\$93,573	\$81,886
Number of retired members	128 *	29	87	119	589	383	158	1,493 **

* Includes 106 members who did not have service reported.

** Includes 958 members who did not have FAS reported.

2013								
Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$1,050	\$1,513	\$1,720	\$2,007	\$2,685	\$4,053	\$5,336	\$3,050
Average annual benefit	\$12,597	\$18,154	\$20,640	\$24,080	\$32,216	\$48,683	\$64,036	\$36,595
Average final average salary	\$49,479	\$64,928	\$55,062	\$62,052	\$75,328	\$90,016	\$93,076	\$81,986
Number of retired members	120 *	30	82	116	577	364	158	1,447 **

* Includes 99 members who did not have service reported.

** Includes 956 members who did not have FAS reported.

2012								
Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$1,062	\$1,523	\$1,701	\$2,072	\$2,672	\$3,956	\$5,192	\$3,038
Average annual benefit	\$12,740	\$18,280	\$20,416	\$24,865	\$32,067	\$47,475	\$62,306	\$36,461
Average final average salary	\$50,146	\$51,114	\$53,705	\$64,002	\$74,611	\$88,513	\$92,039	\$80,981
Number of retired members	96 *	29	78	110	564	343	156	1,376 **

* Includes 77 members who did not have service reported.

** Includes 931 members who did not have FAS reported.

2011								
Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$1,063	\$1,519	\$1,600	\$2,062	\$2,656	\$3,846	\$4,971	\$2,967
Average annual benefit	\$12,751	\$18,225	\$19,194	\$24,749	\$31,877	\$46,151	\$59,651	\$35,599
Average final average salary	\$50,146	\$51,114	\$49,051	\$64,919	\$73,582	\$86,853	\$90,415	\$79,520
Number of retired members	90 *	30	73	111	555	328	149	1,336 **

**Includes 71 members who did not have service reported.

**Includes 942 members who did not have FAS reported.

2010								
Service	Years Credited Service							Total
	0-4. yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-24 yrs.	25-29 yrs.	30 or more yrs.	
Average monthly benefit	\$1,020	\$1,487	\$1,607	\$2,041	\$2,592	\$3,770	\$4,749	\$2,871
Average annual benefit	\$12,244	\$17,846	\$19,283	\$24,493	\$31,109	\$45,240	\$56,983	\$34,454
Average final average salary	\$55,668	\$47,729	\$50,024	\$62,405	\$71,694	\$86,042	\$89,392	\$78,232
Number of retired members	80 *	28	73	109	530	304	130	1,254 **

* Includes 62 members who did not have service reported.

** Includes 946 members who did not have FAS reported.

SCHEDULES OF AVERAGE BENEFIT PAYMENT AMOUNTS — OPEB PLAN

	Service	2020	0-4 yrs**	5-9 yrs
Average Monthly Benefit			\$331	\$354
Annual Benefits			\$631,427	\$589,885
Number of retired members			159	139
**Includes 44 members who did not have service reported				
	Service	2019	0-4 yrs**	5-9 yrs
Average Monthly Benefit			\$336	\$366
Annual Benefits			\$653,981	\$619,557
Number of retired members			162	141
**Includes 45 members who did not have service reported				
	Service	2018	0-4 yrs**	5-9 yrs
Average Monthly Benefit			\$349	\$381
Annual Benefits			\$711,727	\$662,965
Number of retired members			170	145
**Includes 47 members who did not have service reported				
	Service	2017	0-4 yrs**	5-9 yrs
Average Monthly Benefit			\$360	\$383
Annual Benefits			\$756,048	\$702,393
Number of retired members			175	153
**Includes 48 members who did not have service reported				
	Service	2016	0-4 yrs.**	5-9 yrs.
Average Monthly Benefit			\$366	\$393
Annual Benefits			\$776,997	\$749,533
Number of retired members			177	159
**Includes 44 members who did not have service reported				
	Service	2015	0-4 yrs.**	5-9 yrs.
Average Monthly Benefit			\$373	\$392
Annual Benefits			\$805,749	\$789,827
Number of retired members			180	168
**Includes 43 members who did not have service reported				
	Service	2014	0-4 yrs.**	5-9 yrs.
Average Monthly Benefit			\$415	\$424
Annual Benefits			\$811,354	\$804,819
Number of retired members			163	158
**Includes 35 members who did not have service reported				
	Service	2013	0-4 yrs.**	5-9 yrs.
Average Monthly Benefit			\$433	\$448
Annual Benefits			\$941,225	\$934,509
Number of retired members			181	174
**Includes 37 members who did not have service reported				
	Service	2012	0-4 yrs.**	5-9 yrs.
Average Monthly Benefit			\$395	\$446
Annual Benefits			\$1,074,690	\$904,456
Number of retired members			227	169
**Includes 94 members who did not have service reported				
	Service	2011	0-4 yrs.**	5-9 yrs.
Average Monthly Benefit			\$406	\$451
Annual Benefits			\$1,158,273	\$941,454
Number of retired members			238	174
**Includes 103 members who did not have service reported				

10-14 yrs	15-19 yrs	20-24 yrs	2020 25-29 yrs	30 or more yrs	Total
\$385	\$395	\$401	\$413	\$409	\$404
\$1,077,426	\$1,010,352	\$14,965,052	\$10,471,495	\$17,362,766	\$46,108,403
233	213	3,110	2,115	3,540	9,509
10-14 yrs	15-19 yrs	20-24 yrs	2019 25-29 yrs	30 or more yrs	Total
\$396	\$399	\$402	\$415	\$412	\$407
\$1,154,510	\$1,025,557	\$15,256,064	\$10,717,768	\$17,793,776	\$47,221,213
243	214	3,163	2,152	3,601	9,676
10-14 yrs	15-19 yrs	20-24 yrs	2018 25-29 yrs	30 or more yrs	Total
\$404	\$410	\$404	\$419	\$415	\$410
\$1,201,937	\$1,072,127	\$15,719,934	\$10,963,933	\$18,261,256	\$48,593,879
248	218	3,241	2,182	3,665	9,869
10-14 yrs	15-19 yrs	20-24 yrs	2017 25-29 yrs	30 or more yrs	Total
\$405	\$406	\$407	\$420	\$420	\$413
\$1,264,225	\$1,076,033	\$16,063,911	\$11,095,969	\$18,677,378	\$49,635,957
260	221	3,289	2,204	3,703	10,005
10-14 yrs.	15-19 yrs.	20-24 yrs.	2016 25-29 yrs.	30 or more yrs.	Total
\$408	\$410	\$411	\$423	\$430	\$419
\$1,302,304	\$1,131,240	\$16,480,299	\$11,351,956	\$19,325,316	\$51,117,645
266	230	3,345	2,237	3,746	10,160
10-14 yrs.	15-19 yrs.	20-24 yrs.	2015 25-29 yrs.	30 or more yrs.	Total
\$426	\$416	\$415	\$425	\$436	\$424
\$1,375,276	\$1,112,003	\$16,906,473	\$11,528,248	\$19,732,252	\$52,249,828
269	223	3,396	2,259	3,770	10,265
10-14 yrs.	15-19 yrs.	20-24 yrs.	2014 25-29 yrs.	30 or more yrs.	Total
\$442	\$424	\$427	\$434	\$451	\$438
\$1,426,682	\$1,103,825	\$17,210,363	\$11,720,646	\$20,711,693	\$53,789,382
269	217	3,360	2,252	3,824	10,243
10-14 yrs.	15-19 yrs.	20-24 yrs.	2013 25-29 yrs.	30 or more yrs.	Total
\$446	\$428	\$434	\$440	\$467	\$448
\$1,488,868	\$1,124,533	\$17,352,821	\$11,824,268	\$21,523,385	\$55,189,609
278	219	3,332	2,241	3,839	10,264
10-14 yrs.	15-19 yrs.	20-24 yrs.	2012 25-29 yrs.	30 or more yrs.	Total
\$449	\$438	\$445	\$446	\$481	\$458
\$1,509,858	\$1,181,439	\$18,133,415	\$12,107,889	\$22,532,887	\$57,444,634
280	225	3,394	2,264	3,902	10,461
10-14 yrs.	15-19 yrs.	20-24 yrs.	2011 25-29 yrs.	30 or more yrs.	Total
\$458	\$445	\$457	\$456	\$497	\$470
\$1,555,067	\$1,221,548	\$18,843,776	\$12,433,418	\$23,543,318	\$59,696,854
283	229	3,434	2,273	3,946	10,577

PRINCIPAL PARTICIPATING EMPLOYERS

PRINCIPAL PARTICIPATING EMPLOYERS — PENSION PLAN CURRENT YEAR AND NINE YEARS AGO

	As Of June 30, 2020			As Of June 30, 2011		
	# of Covered	Percentage of Total		# of Covered	Percentage of Total	
Participating Government	Employees	Rank	Pension Plan	Employees	Rank	Pension Plan
State of New Hampshire	10,838	1	22.36%	11,399	1	22.92%
SAU 42 (Nashua School District)	1,281	2	2.64%	1,269	3	2.55%
Manchester School District	1,261	3	2.60%	1,348	2	2.71%
Timberlane School District	654	4	1.35%	668	5	1.34%
City of Dover	653	5	1.35%	622	7	1.25%
Merrimack School District	620	6	1.28%	652	6	1.31%
City of Nashua	617	7	1.27%	611	8	1.23%
Concord School District	596	8	1.23%	609	9	1.22%
SAU 54 (Rochester School District)	585	9	1.21%	593	10	1.19%
Londonderry SD	545	10	1.12%	—	—	0.00%
All Other*	30,829		63.59%	31,967		64.27%
Total (461 Governments)	48,479		100.00%	49,738		100.00%

*As of June 30, 2020, "All Other" consisted of:

Type	Number	Employees
City Governments	11	2,449
Town Governments & Related Entities	238	5,804
County Governments & Related Entities	12	3,160
School Districts & School Administrative Units	190	19,416
Total	451	30,829

PRINCIPAL PARTICIPATING EMPLOYERS — OPEB PLAN CURRENT YEAR AND NINE YEARS AGO

	As Of June 30, 2020			As Of June 30, 2011		
	# of Covered	Percentage of Total		# of Covered	Percentage of Total	
Participating Government	Employees	Rank	OPEB Plan	Employees	Rank	OPEB Plan
State of New Hampshire	2,317	1	24.37%	2,768	1	26.17%
Manchester School District	463	2	4.87%	509	2	4.81%
SAU 42 (Nashua School District)	377	3	3.96%	392	3	3.71%
City of Manchester	302	4	3.18%	287	4	2.71%
City of Nashua	294	5	3.09%	271	5	2.56%
Concord School District	187	6	1.97%	197	6	1.86%
City of Concord	182	7	1.91%	186	7	1.76%
Keene School District	171	8	1.80%	162	8	1.53%
Portsmouth School District	133	9	1.40%	148	9	1.40%
Town of Salem	124	10	1.30%	105	10	0.99%
All Other *	4,959		52.15%	5,552		52.49%
Total (361 Governments)	9,509		100.00%	10,577		100.00%

*As of June 30, 2020, "All Other" consisted of:

Type	Number	Employees
City Governments	13	630
Town Governments & Related Entities	129	416
County Governments & Related Entities	12	441
School Districts & School Administrative Units	197	3,472
Total	351	4,959

A full list of participating employers as of June 30, 2020 begins on page 121.

LISTING OF PARTICIPATING EMPLOYERS

STATE GOVERNMENT

State of New Hampshire E, P, F
Community College System of
New Hampshire E
Community Development Finance
Authority E
Land & Community Heritage
Investment Program E
New Hampshire Retirement System E
Pease Development Authority E

CITIES AND TOWNS (AND RELATED ENTITIES)

Albany E
Alexandria E, P
Allenstown E, P, F
Alstead P
Alton E, P, F
Amherst P, F
Andover P
Androscoggin Valley Regional Refuse
Disposal Dist. E
Antrim E, P
Ashland E, P
Atkinson E, P, F
Auburn E, P, F
Barnstead E, P, F
Barrington E, P, F
Bartlett P, F
BCEP Solid Waste District E
Bedford E, P, F
Belmont E, P, F
Bennington E, P
Berlin E, P, F
Berlin Housing Authority E
Berlin Water Works E
Bethlehem E, P, F
Boscawen E, P
Bow E, P, F
Bradford P
Brentwood E, P, F
Bristol E, P, F
Brookline E, P, F

Brookline Public Library E
Campton E, P, F
Canaan E, P
Candia P
Canterbury E, P
Carroll E, P, F
Center Conway Fire Precinct F
Center Harbor P
Central Hooksett Water Precinct E
Charlestown E, P
Chester E, P, F
Chesterfield E, P
Chichester E, P
Claremont E, P, F
Clarksville E
Colebrook E, P
Concord E, P, F
Conway E, P
Conway Village Fire District E, F
Cook Memorial Library E
Cornish E
Croydon E
Danville P
Deerfield E, P
Deering P
Derry E, P, F
Derry Housing Authority E
Dorchester E
Dover E, T, P, F
Dover Housing Authority E
Dublin E, P
Dunbarton E, P
Durham E, P, F
East Kingston E, P
Effingham P
Eidelweiss Village District E
Enfield E, P
Epping E, P, F
Epsom E, P, F
Exeter E, P, F
Farmington P, F

Fitzwilliam E, P
Francestown E, P
Franconia P
Franklin E, P, F
Freedom P
Fremont P
Gilford E, P, F
Gilmanton E, P, F
Goffstown E, P, F
Goffstown Village Water Precinct E
Gorham E, P, F
Goshen E
Grafton E, P
Grantham E, P
Greenfield E, P
Greenland E, P, F
Greenville E, P
Groton E, P
Hampstead E, P, F
Hampton E, P, F
Hampton Falls E, P, F
Hancock P
Hanover E, P, F
Harrisville P
Haverhill E, P
Hebron E, P
Henniker E, P, F
Hillsborough P, F
Hinsdale E, P
Holderness E, P
Hollis E, P, F
Hooksett E, P, F
Hooksett Public Library E
Hooksett Sewer Commission E
Hooksett Village Water Precinct E
Hopkinton E, P, F
Hudson E, P, F
Jackson E, P, F
Jaffrey E, P, F
Jefferson E
Keene E, P, F

Kensington P	Nelson E	Rochester E, P, F
Kingston E, F, P	New Boston P	Rockingham Planning Commission E
Laconia E, P, F	New Castle E, P, F	Rollinsford E, P
Laconia Housing & Redevelopment E	New Durham E, P	Rumney E, P
Laconia Water Works E	New Hampton E, P	Rye E, P, F
Lakes Region Mutual Fire Aid E, F	New Ipswich E, P	Rye Water District E
Lakes Region Planning Commission E	New London E, P, F	Salem E, P, F
Lancaster E, P, F	New London-Springfield Water Precinct E	Salem Housing Authority E
Langdon P	Newbury P	Salisbury E
Lebanon E, P, F	Newfields E, P	Sanbornton E, P, F
Lee E, P, F	Newington E, P, F	Sanbornton Public Library E
Lempster E	Newmarket E, P, F	Sandown E, P, F
Lincoln E, P	Newmarket Housing Authority E	Sandown Public Library E
Lisbon P	Newport E, P, F	Sandwich P, F
Litchfield E, P, F	Newton E, P	Seabrook P, F
Littleton E, P, F	New Hampshire Municipal Bond Bank E	Shelburne E
Littleton Public Library E	North Conway Water Precinct/ Fire Department E, F	Somersworth E, P, F
Littleton Water & Light Department E	North Hampton E, P, F	Somersworth Housing Authority E
Londonderry E, P, F	Northfield E, P	South Hampton P
Loudon E, P, F	Northumberland E, P	Southern NH Planning Commission E
Lyme E, P	Northwood E, P, F	Springfield E, P
Madison E, P	Nottingham P, F	Stark E
Manchester P, F	Orford E, P	Stewartstown E
Marlborough E, P	Ossipee E, P	Strafford P, F
Marlow E	Pelham E, P, F	Stratford E
Mason P	Pembroke E, P, F	Stratham E, P
Meredith E, P, F	Peterborough E, P, F	Sugar Hill E, P
Meriden Village Water District E	Piermont P	Sunapee E, P
Merrimack E, P, F	Pittsburg E, P	Sutton P
Merrimack Village District E	Pittsfield E, P, F	Swanzey P, F
Middleton P	Plainfield E, P	SWNH District Fire Mutual Aid E, F
Milford E, P, F	Plaistow E, P, F	Tamworth E, P, F
Milford Area Communication Center E	Plaistow Public Library E	Thornton E, P
Milton E, F, P	Plymouth E, P, F	Thornton Public Library E
Monroe E	Plymouth Village Water & Sewer E	Tilton E, P
Mont Vernon E, P	Portsmouth E, P, F	Tilton/Northfield Fire District E, F
Moultonborough E, P, F	Portsmouth Housing Authority E	Troy E, P
Nashua E, P, F	Raymond E, P, F	Troy Water & Sewer E
Nashua Airport Authority E	Rindge E, P, F	Tuftonboro E, P, F
Nashua Housing Authority E		Unity E
		Village District of Eastman E

Lebanon School District E, T	Nottingham School District E, T	Virtual Learning Academy Charter School T
Lempster School District E, T	Oyster River Coop School District E, T	Wakefield School District E, T
Lincoln Woodstock Coop School District E, T	Pelham School District E, T	Warren School District E, T
Lisbon Regional School District E, T	Pembroke School District E, T	Washington School District E, T
Litchfield School District E, T	Pemi-Baker Regional School District E, T	Waterville Valley School District E, T
Littleton School District E, T	Piermont School District E, T	Weare School District T
Londonderry School District E, T	Pittsburg School District E, T	Wentworth School District E, T
Lyme School District E, T	Pittsfield School District E, T	Westmoreland School District E, T
Madison School District E, T	Plainfield School District E, T	White Mountains Regional School District E, T
Manchester School District E, T	Plymouth School District E, T	Wilton-Lyndeborough School District E, T
Marlborough School District E, T	Portsmouth School District E, T	Winchester School District E, T
Marlow School District E, T	Profile Coop School District E, T	Windham School District E, T
Mascenic Regional School District E, T	Propsect Mountain High School E, T	Winnacunnet Coop School District E, T
Mascoma Valley School District E, T	Raymond School District E, T	Winnisquam Regional School District E, T
Mason School District E, T	Rivendell Interstate School District T	
Merrimack School District E, T	Rollinsford School District E, T	
Merrimack Valley School District E, T	Rumney School District E, T	
Middleton School District E, T	Rye School District E, T	SCHOOL ADMINISTRATIVE UNITS
Milan School District E, T	Salem School District E, T	SAU 2 E, T
Milford School District E, T	Sanborn Regional School District E, T	SAU 3 E, T
Milton School District E, T	Seabrook School District E, T	SAU 6 E
Monadnock Regional School District E, T	Seacoast Charter School T	SAU 7 E, T
Monroe School District E, T	Shaker Regional School District E, T	SAU 9 E, T
Mont Vernon School District E, T	Somersworth School District E, T	SAU 10 E, T
Moultonborough School District E, T	Souhegan Cooperative School District E, T	SAU 13 E, T
Nelson School District T	South Hampton School District E, T	SAU 15 E
New Boston School District E, T	Stark School District E, T	SAU 16 E, T
New Castle School District E, T	Stewartstown School District T	SAU 19 E, T
Newfields School District E, T	Stoddard School District E, T	SAU 20 E
Newfound Area School District E, T	Strafford School District E, T	SAU 21 E, T
Newington School District E, T	Stratford School District E, T	SAU 23 E, T
Newmarket School District E, T	Stratham School District E, T	SAU 24 E, T
Newport School District E, T	Sunapee School District E, T	SAU 29 E, T
Next Charter School T	Tamworth School District E, T	SAU 34 E
North Country Charter Academy T	Thornton School District E, T	SAU 35 E, T
North Country Education Service E, T	Timberlane Regional School District E, T	SAU 39 E
North Hampton School District E, T	Unity School District E, T	SAU 41 E, T
Northumberland School District E, T		SAU 42 E, T
Northwood School District E, T		SAU 44 E, T

SAU 46 E, T
SAU 48 E, T
SAU 50 E, T
SAU 53 E, T
SAU 54 E, T
SAU 55 E
SAU 56 E, T
SAU 58 E
SAU 67 E, T
SAU 70 E, T

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK
