



# NHRS

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

Annual Comprehensive Financial Report  
For The Fiscal Year Ended  
June 30, 2022





**AUDITED ANNUAL COMPREHENSIVE  
FINANCIAL REPORT  
FOR THE FISCAL YEAR ENDED  
JUNE 30, 2022**

A Fiduciary Component Unit of the State of New Hampshire

Prepared by  
New Hampshire Retirement System  
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Concord, New Hampshire 03301-8507  
[www.nhrs.org](http://www.nhrs.org)

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NEW HAMPSHIRE RETIREMENT SYSTEM

# **INTRODUCTORY SECTION**

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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](http://www.nhrs.org) - Email: [info@nhrs.org](mailto:info@nhrs.org)



*Timothy S. Lesko*  
Chair  
Board of Trustees

December 15, 2022

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' Annual Comprehensive Financial Report (ACFR) for the fiscal year ended June 30, 2022. 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 2022.

The Board 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.

NHRS pursues a long-term investment strategy designed to meet its funding requirements. The goals of this approach are to reduce risk and mitigate volatility, while meeting or exceeding the assumed rate of investment return of 6.75%. The Board sets the assumed rate of 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 realized a negative 6.1% (-6.1%) return on investments in the fiscal year ended June 30, 2022. 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, and 25-year returns for the periods ended June 30, 2022, were 7.1%, 7.2%, 8.5%, and 6.9%, respectively. All returns are net of fees.

Factors such as Russia's invasion of Ukraine, the ongoing disruption of global supply chains due to COVID, and inflationary pressures not seen in decades, resulted in heightened investor uncertainty and significantly increased market volatility throughout the year.

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 2022, issued separately by the IIC and available on the NHRS website ([www.nhrs.org](http://www.nhrs.org)).

At the close of the fiscal year, the retirement system's net position held in trust was \$10.75 billion.

At June 30, 2022, the funded ratio of the Pension Plan stood at 65.6% and the OPEB Plan at 8.0%, versus 64.2% and 7.2% 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.

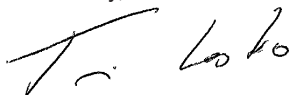
Since 2007, a number of important legislative and policy changes have been made to improve NHRS operations and address its unfunded actuarial accrued liability (UAAL). This liability was created by short-sighted public policy decisions made nearly 30 years ago and exacerbated by global economic dips in 2001-02 and 2008-09 and the adoption of more conservative actuarial assumptions over the past decade. While we can't know for certain what economic and policy challenges lie ahead, there is a solid foundation in place and meaningful progress has been made to ensure the long-term viability of NHRS.



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 leveraging technology for more efficient recruitment efforts, adding additional member and employer education programming, and continuing to enhance our cyber-security efforts. We are at the two-thirds mark of a five-year upgrade of our 20-year-old pension administration system, which will create operational efficiencies and provide additional security features.

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 members and beneficiaries.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Lesko". The signature is fluid and cursive, with a large initial "T" and "L".

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



**Ken Merrifield**  
*Employer Member*  
March 2021 to July 2022



**Scott M. Myers**  
*Employer Member*  
January 2018 to September 2022



**Germano Martin**  
*Employee Member*  
August 2021 to July 2024



**Sue Hannan**  
*Teacher Member*  
July 2018 to July 2021



**Andrew Martineau**  
*Firefighter Member*  
December 2020 to July 2024



**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

as of 6/30/22

**INDEPENDENT  
INVESTMENT  
COMMITTEE**

**INDEPENDENT MEMBERS**



**Scott Hammond**  
November 2021–August 2022



**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

*See page 65 for a list of investment management, service, and brokerage commissions paid.*

**CERTIFICATE OF  
ACHIEVEMENT**



Government Finance Officers Association

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

Presented to

**New Hampshire Retirement System**

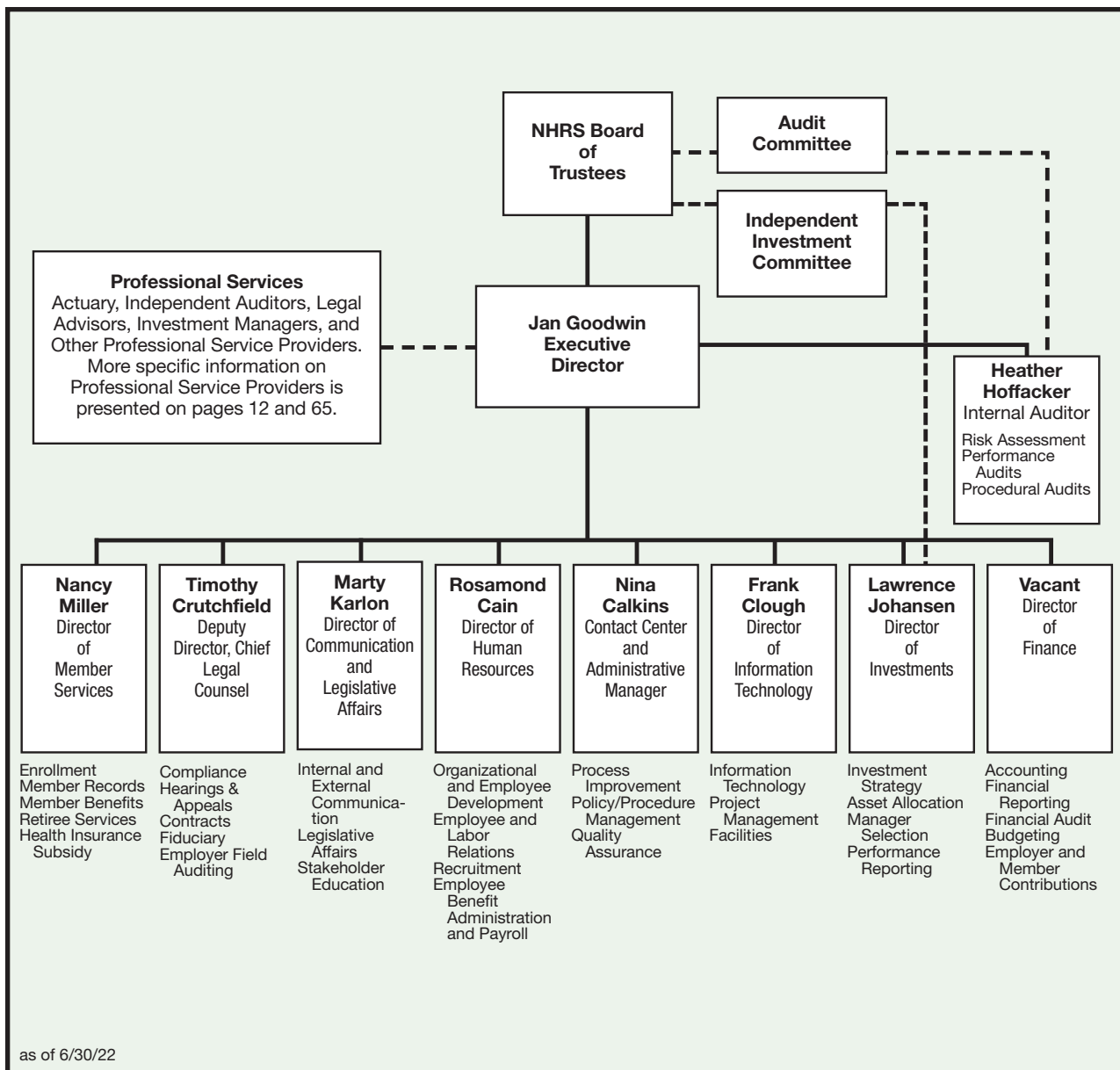
For its Annual Comprehensive  
Financial Report  
For the Fiscal Year Ended

June 30, 2021

*Christopher P. Morill*

Executive Director/CEO

**ADMINISTRATIVE ORGANIZATION**



## PROFESSIONAL MANAGERS, ADVISORS AND SERVICE PROVIDERS

### DOMESTIC EQUITY MANAGERS

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

### NON-U.S. EQUITY MANAGERS

Aristotle Capital Management  
Artisan Partners  
Causeway Capital Management  
Lazard Asset Management LLC  
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  
Atalaya Capital Management  
Avenue Capital Group  
BlackRock Private Equity Partners  
Carlyle Group  
CarVal Investors  
CCMP Capital  
Clearlake Capital Partners  
Coller Capital  
Comvest Partners  
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  
RFE Investment Partners  
Riverstone Holdings  
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

Callan LLC

### ACTUARIAL CONSULTANT

Gabriel, Roeder, Smith & Company

### LEGAL ADVISORS

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

### CUSTODIANS

BNY Mellon  
(Master Custodian)  
Citizens Bank-NH  
(In-state 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](http://www.nhrs.org) - Email: [info@nhrs.org](mailto:info@nhrs.org)**



*Jan Goodwin*  
*Executive Director*

December 15, 2022

Dear Chair and Members of the Board of Trustees:

We are pleased to submit the Annual Comprehensive Financial Report (ACFR) of the New Hampshire Retirement System (NHRS) for the fiscal year ended June 30, 2022. 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 48,687 active members and 42,415 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 2022 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 (IIC) 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 ACFR 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 the NHRS 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, 2022, plan net position decreased \$820.3 million to \$10,753.4 million compared to a \$2,439.6 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 supply chain issues and the invasion of Ukraine, which impacted food and energy prices. 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**

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, 2022, based on the June 30, 2022 financial schedules prepared by our actuary was 65.6%. The comparable funded ratio at June 30, 2021, based on the June 30, 2021 financial schedules prepared by our actuary was 64.2%. The funded ratio of the OPEB Plan at June 30, 2022, based on the June 30, 2022 financial schedules prepared by our actuary, was 8.0%. The comparable funded ratio at June 30, 2021, based on the June 30, 2021 financial schedules prepared by our actuary was 7.2%. The ratio of Plan net position to the Plan liability under GAAP is separately determined for both the Pension and OPEB Plans 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 50.

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 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](http://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 based on the fair value of assets at year end. 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, the 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 Plan's 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-five year periods ended June 30, 2022, were -6.1%, 7.1%, 7.2%, 8.5% and 6.9%, respectively. The current assumed rate of return is 6.75%. A discussion about comparative annualized returns and related benchmark indices for fiscal years 2022 and 2021 is presented in the Management's Discussion and Analysis beginning on page 21.

For the thirteen years ending June 30, 2022, a period during which the IIC made the investment decisions, total fund performance was primarily in the first or second top quartile.

The outperformance of 60 basis points relative to the median of the Callan Public Fund Sponsor – Large Universe for the thirteen years ending June 30, 2022, represents approximately \$325 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 efforts during fiscal year 2022 were:

- Continued design and testing related to a multi-year upgrade to core pension administration system, which remains on schedule to go live in late 2023.
- Maintained and expanded various cyber-security enhancements designed to protect the security of our system and member/retiree personal information; stopped accepting email attachments sent to the general information mailbox.
- Implemented statutory changes enacted in 2022 related to member benefits that required significant pension database modifications.
- Published updated Statutory Interpretive Memoranda relating to participation, earnable compensation, and related benefit issues.
- Successfully met the recruiting and personnel challenges resulting from retirements and turnover; leveraged technology for more efficient recruitment efforts; expanded management development program.
- Issued the June 30, 2021, GASB 68 and 75 reports with unmodified (clean) opinions.
- Enhanced member and employer education efforts by adding presentations specifically focused on filing a retirement application and submitting final compensation information for recently retired members.
- Earned a Certificate of Achievement for Excellence in Financial Reporting for the June 30, 2021 Annual Comprehensive Annual Financial Report (ACFR).

### **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 2022, 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, 2019, actuarial valuation was used to determine employer contribution rates for fiscal years 2022 and 2023. The June 30, 2021, actuarial valuation was used to determine employer contribution rates for fiscal years 2024 and 2025. 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 Annual Comprehensive Financial Report for the fiscal year ended June 30, 2021, 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 31 of the past 32 years. A copy of the fiscal year 2021 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,



Jan Goodwin  
*Executive Director*

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NEW HAMPSHIRE RETIREMENT SYSTEM

# FINANCIAL SECTION

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# INDEPENDENT AUDITORS' REPORT



## Plante & Moran, PLLC

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

To the Board of Trustees  
New Hampshire Retirement System

## REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS

### OPINION

We have audited the financial statements of the New Hampshire Retirement System (the "System"), a fiduciary component unit of the State of New Hampshire, as of and for the year ended June 30, 2022 and the related notes to the financial statements, which collectively comprise the System's basic financial statements, as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the fiduciary net position of the New Hampshire Retirement System as of June 30, 2022 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.

### BASIS FOR OPINION

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are required to be independent of the System and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### RESPONSIBILITIES OF MANAGEMENT FOR THE FINANCIAL STATEMENTS

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

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for 12 months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

### AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

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

In performing an audit in accordance with GAAS and Government Auditing Standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

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

### **REQUIRED SUPPLEMENTARY INFORMATION**

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other required supplementary information, as identified in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, 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 supplemental information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### **SUPPLEMENTARY INFORMATION**

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the System's basic financial statements. The supporting schedules, as identified in the table of contents, are presented for the purpose of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information 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 are fairly stated in all material respects in relation to the basic financial statements as a whole.

### **OTHER INFORMATION**

Management is responsible for the other information included in the Annual Comprehensive Financial Report. The other information comprises the introductory, investment, actuarial, and statistical sections but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements or whether the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

### **REPORT ON SUMMARIZED COMPARATIVE INFORMATION**

We have previously audited the System's June 30, 2021 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated December 13, 2021. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2021 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 December 15, 2022 on our consideration of the 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 solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's 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 System's internal control over financial reporting and compliance.

*Plante & Moran, PLLC*

December 15, 2022

## MANAGEMENT'S DISCUSSION AND ANALYSIS — REQUIRED SUPPLEMENTARY INFORMATION

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, 2022 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 Annual Comprehensive 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, 2022 with summarized comparative information for fiscal year 2021. 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 \$820.3 million (-7.1%) from the prior year's net position reflecting a decline in investments due to a variety of factors contributing to systemic risk, including the aftermath of the COVID-19 pandemic, which contributed to supply chain inefficiencies, a significant dislocation between supply/demand dynamics, and the potential for weaker economic fundamentals. In addition, the invasion of Ukraine exacerbated several risk factors impacting food prices, energy prices, and contributed further to supply chain dislocations. Net investment loss during fiscal year 2022 was \$693.0 million, a \$3,321.4 million (-126.4%) decrease over the prior fiscal year. The net investment loss for fiscal year 2022 reflects a time-weighted return for the total fund during the year of -6.1% compared to a time-weighted investment return of 29.4% for the fiscal year ended June 30, 2021.

The total contributions received during the fiscal year were \$865.1 million. For fiscal year 2021, total contributions received were \$744.2 million.

Employer contributions for fiscal year 2022 increased 22.4%, to \$621.1 million, compared with employer contributions in fiscal year 2021 of \$507.3 million. The increase in employer contributions in fiscal year 2022 was primarily due to an increase in the employer contribution rates as determined in the actuarial valuation report dated as of June 30, 2019.

Member contributions were \$244.0 million in fiscal year 2022, an increase of 3.0% over fiscal year 2021 member contributions of \$236.9 million. The increase in member contributions is primarily due to an increase in earnable compensation rates for contributing members.

Benefits paid during fiscal year 2022 were \$957.8 million, an increase of 6.0% over benefits paid in fiscal year 2021 of \$903.7 million. The increase in benefits paid in fiscal year 2022 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, 2022 and June 30, 2021.

#### Condensed Comparative Fiduciary Net Position — Combined Plans

(Dollar Values Expressed in Millions)

|  | As of<br>June 30, 2022 | As of<br>June 30, 2021 | Amount<br>Increase<br>(Decrease) | Percentage<br>Increase<br>(Decrease) |
|--|------------------------|------------------------|----------------------------------|--------------------------------------|
| Cash   | \$ 264.6               | \$ 297.4               | \$ (32.8)                        | (11.0%)                              |
| Receivables                                  | 119.3                  | 102.4                  | 16.9                             | 16.5%                                |
| Investments                                  | 10,390.6               | 11,206.3               | (815.7)                          | (7.3%)                               |
| Other Assets                                 | 9.5                    | 4.5                    | 5.0                              | 111.1%                               |
| <b>Total Assets</b>                          | <b>\$10,784.0</b>      | <b>\$11,610.6</b>      | <b>\$ (826.6)</b>                | <b>(7.1%)</b>                        |
| Other Liabilities                            | 30.7                   | 36.9                   | (6.2)                            | (16.8%)                              |
| <b>Total Liabilities</b>                     | <b>\$ 30.7</b>         | <b>\$ 36.9</b>         | <b>\$ (6.2)</b>                  | <b>(16.8%)</b>                       |
| <b>Net Position Restricted for:</b>          |                        |                        |                                  |                                      |
| Pensions                                     | \$10,708.4             | \$11,523.9             | \$ (815.5)                       | (7.1%)                               |
| Post Employment Benefits Other Than Pensions | 45.0                   | 49.8                   | (4.8)                            | (9.6%)                               |
| <b>Total Restricted Net Position</b>         | <b>\$10,753.4</b>      | <b>\$11,573.7</b>      | <b>\$ (820.3)</b>                | <b>(7.1%)</b>                        |

Total assets decreased by \$826.6 million (7.1%) in fiscal year 2022. Cash on hand at fiscal year end was \$264.6 million (11.0%) lower than at fiscal year end 2021 reflecting higher draw downs of liquidity reserves necessary to meet operating obligations. Receivables increased by \$16.9 million (16.5%) compared to the prior fiscal year primarily due to an increase

in the contributions due from employers and plan members as well an increase in pending sales of securities at fiscal year end. Investment values decreased by \$815.7 million (7.3%) in fiscal year 2022. The decrease in investments is attributable to a variety of factors contributing to systemic risk, including the aftermath of the COVID-19 pandemic, which contributed to supply chain inefficiencies, a significant dislocation between supply/demand dynamics, and the potential for weaker economic fundamentals. In addition, the invasion of Ukraine exacerbated several risk factors impacting food prices, energy prices, and contributed further to supply chain dislocations. Other assets increased by \$5.0 million for fiscal year 2022 primarily due to the addition of a Right to Use Asset – Lease per GASB 87 implementation guidelines. Total liabilities decreased by \$6.2 million (16.8%) at the end of fiscal year 2022 primarily due to a decrease in pending purchases of securities at fiscal year end.

### Condensed Comparative Changes in Fiduciary Net Position – Combined Plans

(Dollar Values Expressed in Millions)

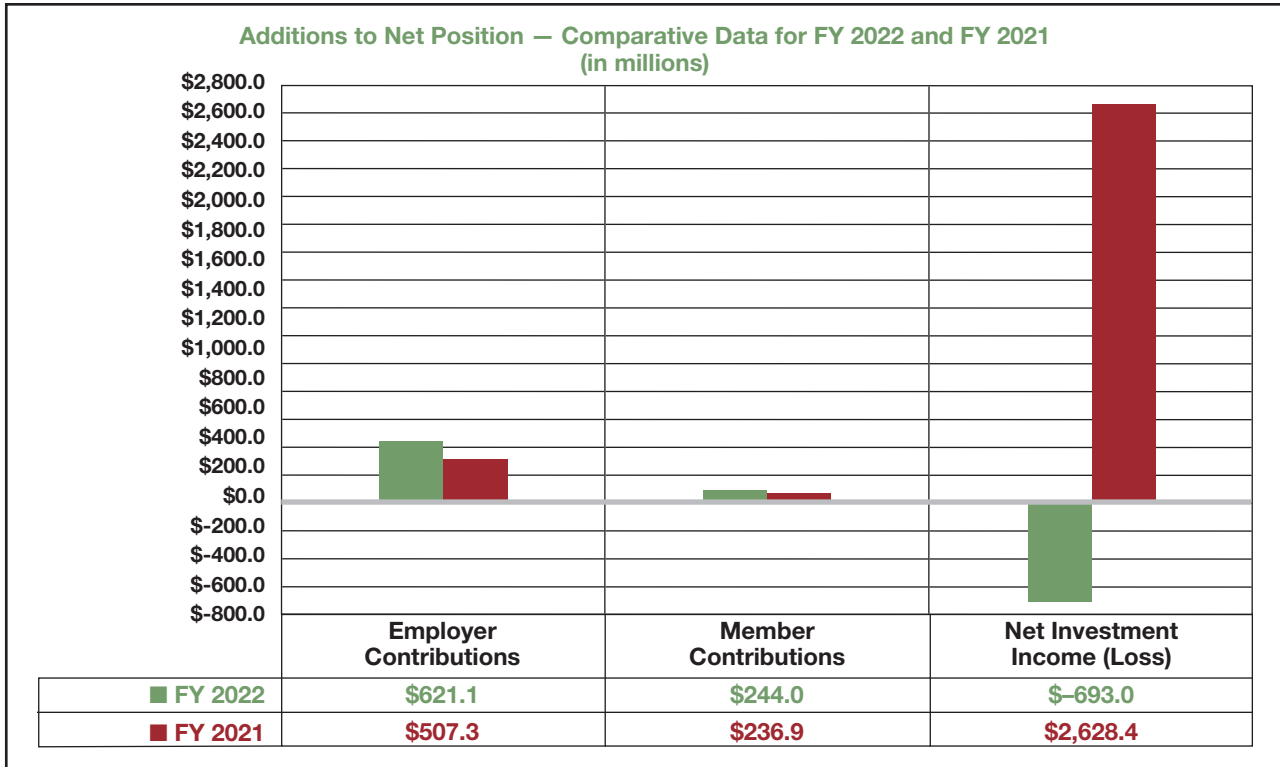
|   | Year Ended<br>June 30, 2022 | Year Ended<br>June 30, 2021 | Amount<br>Increase<br>(Decrease) | Percentage<br>Increase<br>(Decrease) |
|---|-----------------------------|-----------------------------|----------------------------------|--------------------------------------|
| <b>ADDITIONS:</b>                                   |                             |                             |                                  |                                      |
| Employer Contributions                              | \$ 621.1                    | \$ 507.3                    | \$ 113.8                         | 22.4%                                |
| Member Contributions                                | 244.0                       | 236.9                       | 7.1                              | 3.0%                                 |
| Net Investment Income (Loss)                        | (693.0)                     | 2,628.4                     | (3,321.4)                        | (126.4%)                             |
| <b>Total Additions to Fiduciary Net Position</b>    | <b>\$ 172.1</b>             | <b>\$ 3,372.6</b>           | <b>\$(3,200.5)</b>               | <b>(94.9%)</b>                       |
| <b>DEDUCTIONS:</b>                                  |                             |                             |                                  |                                      |
| Benefits Paid                                       | \$ 957.8                    | \$ 903.7                    | \$ 54.1                          | 6.0%                                 |
| Refunds of Contributions                            | 23.7                        | 19.9                        | 3.8                              | 19.1%                                |
| Administrative Expense                              | 9.8                         | 8.6                         | 1.2                              | 14.0%                                |
| Other Deductions                                    | 1.1                         | 0.8                         | 0.3                              | 37.5%                                |
| <b>Total Deductions from Fiduciary Net Position</b> | <b>\$ 992.4</b>             | <b>\$ 933.0</b>             | <b>\$ 59.4</b>                   | <b>6.4%</b>                          |
| <b>Total Changes in Fiduciary Net Position</b>      | <b>\$ (820.3)</b>           | <b>\$ 2,439.6</b>           | <b>\$(3,259.9)</b>               | <b>(133.6%)</b>                      |

### ADDITIONS TO NET POSITION

For fiscal year 2022, the combined total of employer and member increased by \$120.9 million or 16.2%. Employer contributions increased from \$507.3 million in fiscal year 2021 to \$621.1 million or 22.4% in fiscal year 2022. The increase in employer contributions is primarily due to an increase in the employer contribution rates as determined in the actuarial valuation report dated as of June 30, 2019. Member contributions for fiscal year 2022 were \$244.0 million, an increase of \$7.1 million or 3.0% from fiscal year 2021.

Over the long term, the Plan's investment portfolio has been a source for additions to fiduciary net position. However, in fiscal year 2022 there was a net investment loss of \$693.0 million compared with a net investment income gain in fiscal year 2021 of \$2,628.4 million. The net change from year-to-year was \$(3,321.4) million or (126.4%), a decrease from fiscal year 2021. The decrease in investment income is due to a variety of factors contributing to systemic risk, including the aftermath of the COVID-19 pandemic, which contributed to supply chain inefficiencies, a significant dislocation between supply/demand dynamics, and the potential for weaker economic fundamentals. In addition, the invasion of Ukraine exacerbated several risk factors impacting food prices, energy prices, and contributed further to supply chain dislocations.

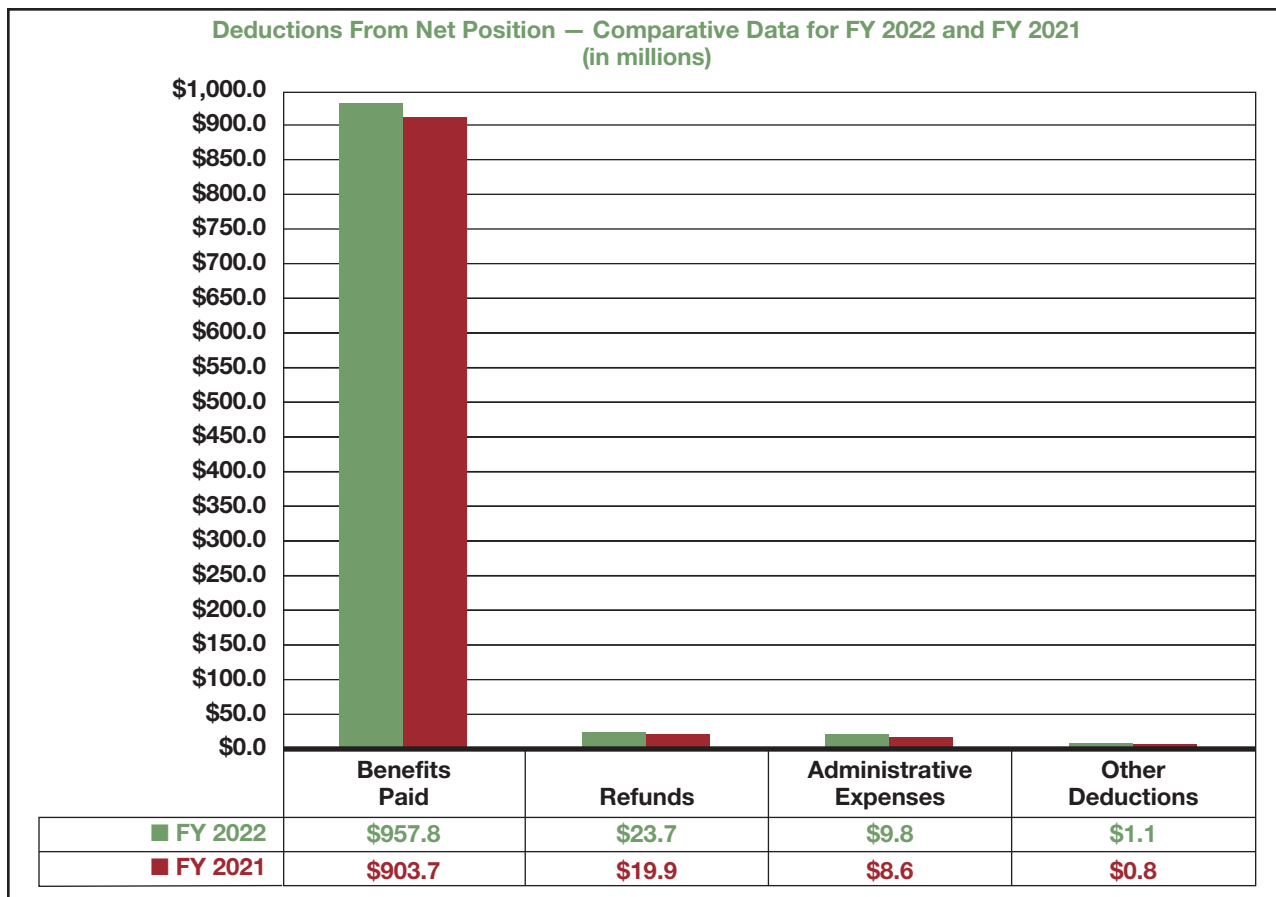




**DEDUCTIONS FROM NET POSITION**

Total benefits paid in fiscal year 2022 were \$957.8 million, an increase of \$54.1 million or 6.0% over the fiscal year 2021 level of \$903.7 million. Pension benefits paid in fiscal year 2022 were \$914.0 million, an increase of \$55.8 million or 6.5% compared with the pension benefits paid in fiscal year 2021 of \$858.2 million. The increase in pension benefits paid in fiscal year 2022 is due to an increase in the number retirees and increased average benefit levels for those new retirees. OPEB benefits paid in fiscal year 2022 were \$43.8 million, which was slightly lower than the benefits paid in 2021. Future OPEB benefit payments are expected to remain flat or decrease over time as there is a very small population of active members who can still qualify for this benefit. Refunds of contributions were \$23.7 million, an increase of \$3.8 million or 19.1% over the 2021 level of \$19.9 million. This reflects an increase in the number and dollar value of refund requests from terminated members in 2022.

Administrative expenses increased by \$1.2 million or 14.0% in fiscal year 2022 to a level of \$9.8 million compared with 8.6 million in 2021. Administrative expenses increased primarily due to an increase in staff and software implementation costs that were necessary to assist the system with completion of a multi-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 plans net position as a percentage of the liabilities for both the Pension and OPEB plan were determined using the entry age normal actuarial cost method for both fiscal year 2022 and 2021. The assumptions used to calculate the liabilities in fiscal year 2022 remain the same as those in place for the fiscal year 2021 calculation.

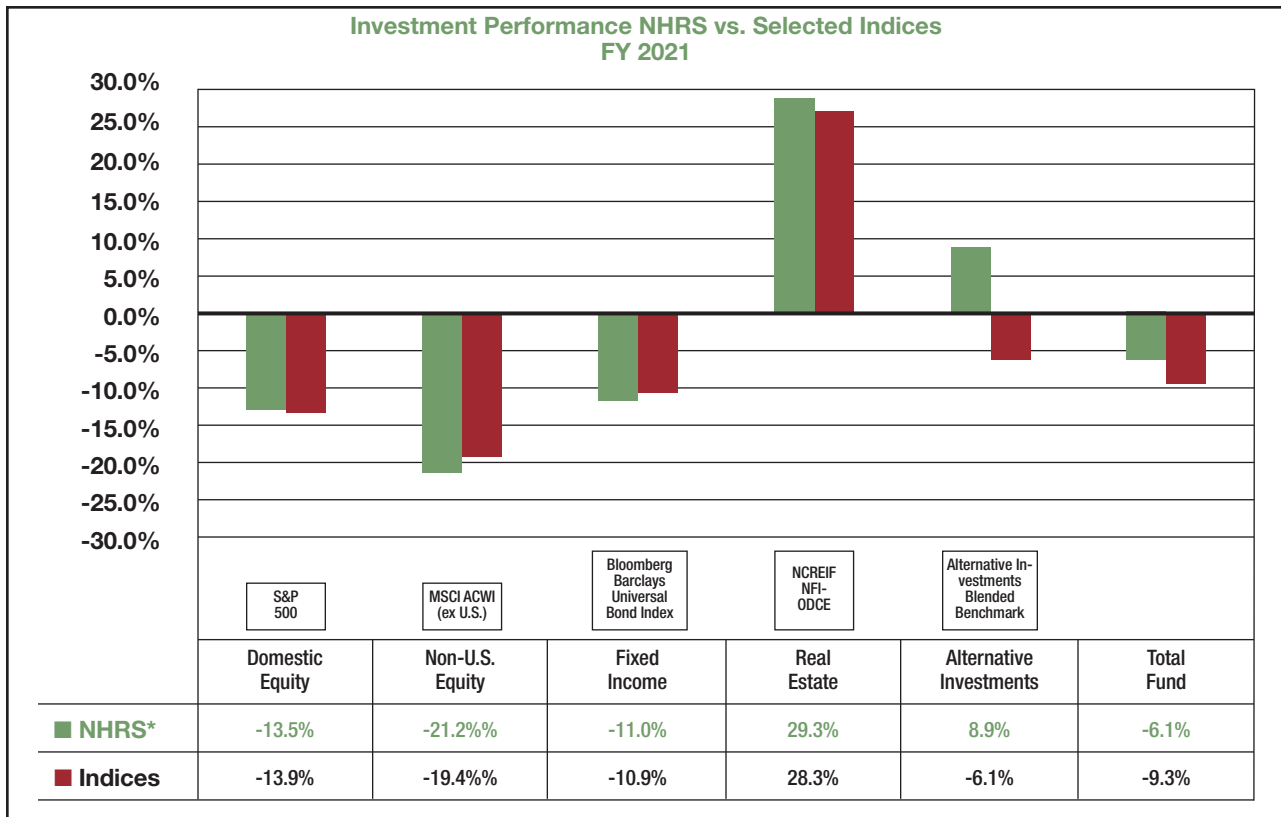
The total pension liability under GAAP at June 30, 2022, was \$16,444.5 million. The fiduciary net position available to pay pension benefits at June 30, 2022 was \$10,708.4 million, resulting in a net pension liability of \$5,736.1 million and a plan net position as a percentage of the liabilities of 65.1%. As of June 30, 2021, the total pension liability was \$15,955.8 million. The fiduciary net position available to pay pension benefits at June 30, 2021 was \$11,523.9 million, resulting in a net pension liability of \$4,431.9 million and a plan net position as a percentage of the liabilities of 72.2%.

The total OPEB liability under GAAP at June 30, 2022, was \$422.9 million. The fiduciary net position to pay postemployment medical benefits at June 30, 2022 was \$45.0 million resulting in a net OPEB liability of \$377.9 million and a total plan net position as a percentage of the total OPEB liability of 10.6% at June 30, 2022. As of June 30, 2021, the total OPEB liability was \$450.3 million. The fiduciary net position available to pay OPEB benefits at June 30, 2021 was \$49.8 million resulting in a net OPEB liability of \$400.5 million and a total plan net position as a percentage of the total OPEB liability of 11.1%.

**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 (19%), and cash equivalents (2%) comprise approximately 66% of invested assets at June 30, 2022. The remaining 34% of assets are invested in real estate (13%) and alternative investments (21%), which



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

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, 2022, the Plans’ total fund time-weighted rate of return was -6.1% compared to 29.4% for the fiscal year ended June 30, 2021. The difference in year-over-year performance was due to a variety of factors contributing to systemic risk, including the aftermath of the COVID-19 pandemic, which contributed to supply chain inefficiencies, a significant dislocation between supply/demand dynamics, and the potential for weaker economic fundamentals. In addition, the invasion of Ukraine exacerbated several risk factors impacting food prices, energy prices, and contributed further to supply chain dislocations.

The total NHRS fund time-weighted rate of return of -6.1% for fiscal year 2022 outperformed the total fund custom index (a blended composition of major market indices in proportion to the NHRS’ asset allocation), which returned -9.3%, 320 by basis points. Domestic Equity generated a return of -13.5%, outperforming the Russell 3000 Index return of -13.9% by 40 basis points. The non-U.S. equity portfolio returned -21.2% during fiscal year 2022, underperforming the MSCI All Country World (ex U.S.) index return of -19.4% by 180 basis points. Fixed income returned -11.0% and underperformed the Bloomberg Capital Universal Bond Index benchmark return of -10.9% by 10 basis points. The real estate portfolio gained 29.3% and outperformed the NCREIF NFI-ODCE (Net of fee) Index return of 28.3% by 100 basis points. The alternative investment class provided an 8.9% return and outperformed the blended benchmark return of -6.1% by 1,500 basis points. The benchmark for this asset class is 66.7% S&P 500 Index +3% and 33.3% S&P LSTA Leverage Loan 100 Index

**CONTACTING NHRS**

The Annual Comprehensive 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, 2022. Detailed information regarding NHRS’ investments as of June 30, 2022 can be found in the Annual Comprehensive 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 Annual Comprehensive Investment Report. Additional information can also be obtained from the NHRS website at [www.nhrs.org](http://www.nhrs.org).

## BASIC FINANCIAL STATEMENTS

### COMBINING STATEMENTS OF FIDUCIARY NET POSITION

### PENSION AND OTHER POSTEMPLOYMENT MEDICAL PLANS (OPEB)

AS OF JUNE 30, 2022 (with summarized financial information as of June 30, 2021)

(in thousands)

|  | PENSION<br>PLAN<br>2022 | OPEB PLAN<br>2022 | TOTAL<br>2022       | TOTAL<br>2021       |
|--|-------------------------|-------------------|---------------------|---------------------|
| <b>ASSETS:</b>   |                         |                   |                     |                     |
| Cash and Cash Equivalents  | \$ 263,632              | \$ 1,008          | \$ 264,640          | \$ 297,424          |
| Receivables:   |                         |                   |                     |                     |
| Due from Employers   | 58,061                  | 4,347             | 62,408              | 50,533              |
| Due from Plan Members  | 23,361                  | —                 | 23,361              | 22,261              |
| Due from Brokers for Securities Sold   | 11,018                  | 42                | 11,060              | 10,744              |
| Interest and Dividends   | 13,552                  | 52                | 13,604              | 11,626              |
| Other  | 8,823                   | 34                | 8,857               | 7,233               |
| <b>Total Receivables</b>   | <b>\$ 114,815</b>       | <b>\$ 4,475</b>   | <b>\$ 119,290</b>   | <b>102,397</b>      |
| <b>INVESTMENTS AT FAIR VALUE</b>   |                         |                   |                     |                     |
| Equity Investments:  |                         |                   |                     |                     |
| Domestic   | 4,065,290               | 15,549            | 4,080,839           | 3,954,959           |
| International  | 667,904                 | 2,555             | 670,459             | 1,710,688           |
| Fixed Income Investments:  |                         |                   |                     |                     |
| Domestic   | 1,884,565               | 7,208             | 1,891,773           | 2,096,026           |
| International  | 102,688                 | 393               | 103,081             | 98,762              |
| Real Estate  | 1,426,321               | 5,455             | 1,431,776           | 1,129,863           |
| Alternative Investments  | 2,204,291               | 8,431             | 2,212,722           | 2,215,988           |
| <b>TOTAL INVESTMENTS</b>   | <b>\$10,351,059</b>     | <b>\$39,591</b>   | <b>\$10,390,650</b> | <b>11,206,286</b>   |
| Other Assets   | 9,483                   | 35                | 9,518               | 9,198               |
| <b>TOTAL ASSETS</b>  | <b>\$10,738,989</b>     | <b>\$45,109</b>   | <b>\$10,784,098</b> | <b>\$11,615,305</b> |
| <b>LIABILITIES:</b>  |                         |                   |                     |                     |
| Management Fees and Other Payables   | 14,387                  | 55                | 14,442              | 16,034              |
| Due to Brokers for Securities Purchased  | 16,245                  | 62                | 16,307              | 25,597              |
| <b>TOTAL LIABILITIES</b>   | <b>\$ 30,632</b>        | <b>\$ 117</b>     | <b>\$ 30,749</b>    | <b>\$ 41,631</b>    |
| <b>NET POSITION – RESTRICTED FOR PENSION AND OTHER POST EMPLOYMENT BENEFITS (OPEB)</b> |                         |                   |                     |                     |
| Pensions   | 10,708,357              | —                 | 10,708,357          | 11,523,879          |
| Employment Benefits Other than Pensions  | —                       | 44,992            | 44,992              | 49,975              |
| <b>TOTAL RESTRICTED NET POSITION</b>   | <b>\$10,708,357</b>     | <b>\$44,992</b>   | <b>\$10,753,349</b> | <b>\$11,573,854</b> |

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, 2022  
(with summarized financial information for the year ended June 30, 2021)**

(in thousands)

|  | PENSION<br>PLAN<br>2022 | OPEB PLAN<br>2022 | TOTAL<br>2022       | TOTAL<br>2021       |
|--|-------------------------|-------------------|---------------------|---------------------|
| <b>ADDITIONS:</b>  |                         |                   |                     |                     |
| Contributions (NOTE 6):  |                         |                   |                     |                     |
| Employer — Normal  | \$ 579,083              | \$42,064          | \$ 621,147          | \$ 507,093          |
| Employer — Other   | (55)                    | —                 | (55)                | 239                 |
| <b>Total Employer Contributions</b>  | <b>\$ 579,028</b>       | <b>\$42,064</b>   | <b>\$ 621,092</b>   | <b>\$ 507,332</b>   |
| Plan Member  | 243,982                 | —                 | 243,982             | 236,879             |
| <b>Total Contributions</b>   | <b>\$ 823,010</b>       | <b>\$42,064</b>   | <b>\$ 865,074</b>   | <b>\$ 744,211</b>   |
| <b>Investment Income (Loss)</b>  |                         |                   |                     |                     |
| From Investment Activities:  |                         |                   |                     |                     |
| Net Increase/(Decrease) in Fair Value of Investments   | (860,033)               | (3,544)           | (863,577)           | 2,496,167           |
| Interest   | 38,526                  | 160               | 38,686              | 41,295              |
| Dividends  | 87,810                  | 364               | 88,174              | 72,917              |
| Real Estate Income   | 35,128                  | 146               | 35,274              | 24,444              |
| Alternative Investment Income (Loss)   | 64,335                  | 267               | 64,602              | 47,249              |
| <b>Total Income (Loss) from Investment Activities</b>  | <b>\$ (634,234)</b>     | <b>\$ (2,607)</b> | <b>\$ (636,841)</b> | <b>\$ 2,682,072</b> |
| Less: Investment Expenses:   |                         |                   |                     |                     |
| Investment Management Fees   | 53,457                  | 201               | 53,658              | 51,221              |
| Custodial Fees   | 704                     | 3                 | 707                 | 661                 |
| Investment Advisor Fees  | 647                     | 3                 | 650                 | 700                 |
| Investment Professional Fees   | 408                     | 2                 | 410                 | 438                 |
| Investment Administrative Expense  | 727                     | 4                 | 731                 | 688                 |
| <b>Total Investment Activity Expenses</b>  | <b>\$ 55,943</b>        | <b>\$ 213</b>     | <b>\$ 56,156</b>    | <b>\$ 53,708</b>    |
| <b>Total Net Income (Loss) from Investment Income</b>  | <b>\$ (690,177)</b>     | <b>\$ (2,820)</b> | <b>\$ (692,997)</b> | <b>\$ 2,628,364</b> |
| <b>TOTAL ADDITIONS</b>   | <b>\$ 132,833</b>       | <b>\$39,244</b>   | <b>\$ 172,077</b>   | <b>\$ 3,372,575</b> |
| <b>DEDUCTIONS:</b>   |                         |                   |                     |                     |
| Benefits Paid  | 913,994                 | 43,809            | 957,803             | 903,710             |
| Refunds of Contributions   | 23,727                  | —                 | 23,727              | 19,884              |
| Administrative Expense   | 9,523                   | 234               | 9,757               | 8,589               |
| Professional Fees  | 517                     | 2                 | 519                 | 548                 |
| Other  | 594                     | 2                 | 596                 | 245                 |
| <b>TOTAL DEDUCTIONS</b>  | <b>\$ 948,355</b>       | <b>\$44,047</b>   | <b>\$ 992,402</b>   | <b>\$ 932,976</b>   |
| <b>CHANGE IN NET POSITION</b>  | <b>\$ (815,522)</b>     | <b>\$ (4,803)</b> | <b>\$ (820,325)</b> | <b>\$ 2,439,599</b> |
| <b>NET POSITION RESTRICTED FOR PENSION BENEFITS AND OTHER POSTEMPLOYMENT BENEFITS (OPEB)</b> |                         |                   |                     |                     |
| Net Position — Beginning   | \$ 11,523,879           | \$49,795          | \$ 11,573,674       | \$ 9,134,075        |
| Net Position — Ending  | \$ 10,708,357           | \$44,992          | \$ 10,753,349       | \$ 11,573,674       |

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

**NOTES TO  
FINANCIAL STATEMENTS**

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**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. The Executive Council of the State of New Hampshire has the authority and responsibility, together with the Governor, over the administration of the affairs of the State as defined in the New Hampshire Constitution, the New Hampshire statutes, and the advisory opinions of the New Hampshire Supreme Court and the Attorney General. 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) Statement No. 84, as amended, the New Hampshire Retirement System is a fiduciary component unit of the State. This determination was made on the basis of the State's financial burden on behalf of NHRS. A copy of the State of New Hampshire's ACFR may be viewed at [www.das.nh.gov/accounting/](http://www.das.nh.gov/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, 2022 and 2021 are presented below.

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

| <b>EMPLOYERS CONTRIBUTING</b>                    | <b>2022</b> | <b>2021</b> |
|--|-------------|-------------|
| State Government                                 | 1           | 1           |
| City Governments                                 | 13          | 13          |
| Town Governments and Related Entities            | 239         | 238         |
| County Governments and Related Entities          | 12          | 12          |
| School Districts and School Administrative Units | 196         | 197         |
| <b>Total Employers</b>                           | <b>461</b>  | <b>461</b>  |

| <b>MEMBERSHIP DATA</b>  | <b>2022</b>    | <b>2021</b>    |
|---|----------------|----------------|
| Inactive plan members (or their beneficiaries) currently receiving benefits | 42,415         | 40,974         |
| Inactive members entitled to but not yet receiving benefit payments         | 2,990          | 2,730          |
| Active plan members   | 48,687         | 48,582         |
| Inactive members not vested   | 16,717         | 14,946         |
| <b>Total Membership</b>   | <b>110,809</b> | <b>107,232</b> |

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.

All Group II Members are eligible for service retirement at age 60. 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 and were vested prior to January 1, 2012, not to exceed 40 years. Members not vested prior to January 1, 2012 but hired prior to July 1, 2011, may retire between the ages of 46–49 with 21–24 years of creditable service, based on how many years of service they had prior to January 1, 2012. The rate of the retirement allowance is between 2.4% and 2.1% of AFC for each year of creditable service. Members commencing service on or after July 1, 2011 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 ¼ 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 annual comprehensive 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 2022, 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, 2022 and June 30, 2021 are presented below.

For GASB 74 disclosure purposes all State entities contributing to the pension plan are considered one employer.

| <b>EMPLOYERS CONTRIBUTING</b>                    | <b>2022</b> | <b>2021</b> |
|--|-------------|-------------|
| State Government                                 | 1           | 1           |
| City Governments                                 | 13          | 13          |
| Town Governments and Related Entities            | 239         | 238         |
| County Governments and Related Entities          | 12          | 12          |
| School Districts and School Administrative Units | 196         | 197         |
| <b>Total Employers</b>                           | <b>461</b>  | <b>461</b>  |

Membership of the OPEB plan consisted of the following eligible retirees receiving benefits as of June 30, 2022 and 2021.

| <b>MEMBERSHIP DATA</b>  | <b>2022</b>   | <b>2021</b>   |
|---|---------------|---------------|
| Inactive plan members or beneficiaries currently receiving benefit payments | 9,133         | 9,354         |
| Inactive plan members entitled to but not yet receiving benefit payments    | 2,955         | 2,997         |
| Active plan members   | 545           | 708           |
| <b>Total Membership</b>   | <b>12,633</b> | <b>13,059</b> |

The maximum monthly subsidy amounts paid during fiscal year 2022 and 2021 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, 2021, from which the summarized information was derived.

### **PRIOR YEAR RECLASSIFICATIONS**

Certain 2021 information has been reclassified to conform to the 2022 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, 2022 was (5.8%) and 29.7% for June 30, 2021. 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.

### **LEASES**

NHRS recognizes lease contracts or equivalents that have a term exceeding one year and the cumulative future payments on the contract exceed \$25,000 that meet the definition, other than short-term lease. NHRS recognizes a lease liability and an intangible right-to-use lease asset in the combining statements of fiduciary net position.

At the commencement of a lease, NHRS initially measures the lease liability at the present value of payments expected to be made during the lease term. Subsequently, the lease liability is reduced by the principal portion of lease payments made. The lease asset is initially measured as the initial amount of the lease liability, adjusted for lease payments made at or before the lease commencement date, plus certain initial direct costs. Subsequently, the lease asset is amortized on a straight-line basis over its useful life.

Key estimates and judgments related to leases include how NHRS determines (1) the discount rate it uses to discount the expected lease payments to present value, (2) lease term, and (3) lease payments. NHRS uses the interest rate charged by the lessor as the discount rate. When the interest rate charged by the lessor is not provided, NHRS generally uses its estimated incremental borrowing rate as the discount rate for leases. The lease term includes the noncancellable period of the lease. Lease payments included in the measurement of the lease liability are composed of fixed payments and purchase option price that NHRS is reasonably certain to exercise.

NHRS monitors changes in circumstances that would require a remeasurement of its lease and will remeasure the lease asset and liability if certain changes occur that are expected to significantly affect the amount of the lease liability. Short-term lease payments are expensed when incurred.

### **ADOPTION OF NEW ACCOUNTING PRONOUNCEMENTS**

During the current year, the System adopted GASB Statement No. 87, Leases. NHRS evaluated contracts that were formerly accounted for as operating leases to determine whether they meet the definition of a lease as defined in GASB Statement No. 87. The contract to lease office space met the definition of a lease. As a result, the combining statements of fiduciary net position now include a liability for the present value of payments expected to be made and right-to-use assets. Lease activity is further described in Note 8. The financial statements for the year ended June 30, 2021 have been restated in order to adopt GASB Statement No. 87.

**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, 2022 and 2021, as recommended by the Independent Investment Committee and adopted by the Board of Trustees, is as follows:

| ASSET ALLOCATION                     | 2022          |               | 2021          |               |
|--------------------------------------|---------------|---------------|---------------|---------------|
|                                      | Target        | Range         | Target        | Range         |
| <b>Asset Class:</b>                  |               |               |               |               |
| Large Cap Equities                   | 22.5%         |               | 22.5%         |               |
| Small/Mid Cap Equities               | 7.5%          |               | 7.5%          |               |
| <b>Total Domestic Equity</b>         | <b>30.0%</b>  | <b>20–40%</b> | <b>30.0%</b>  | <b>20–40%</b> |
| Int'l Equities (Unhedged)            | 13.0%         |               | 13.0%         |               |
| Emerging Int'l Equities              | 7.0%          |               | 7.0%          |               |
| <b>Total International Equity</b>    | <b>20.0%</b>  | <b>15–25%</b> | <b>20.0%</b>  | <b>15–25%</b> |
| 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%          |               |
| <b>Total Fixed Income</b>            | <b>25.0%</b>  | <b>20–30%</b> | <b>25.0%</b>  | <b>20–30%</b> |
| Private Equity                       | 10.0%         |               | 10.0%         |               |
| Private Debt                         | 5.0%          |               | 5.0%          |               |
| <b>Total Alternative Investments</b> | <b>15.0%</b>  | <b>5–25%</b>  | <b>15.0%</b>  | <b>5–25%</b>  |
| Real Estate                          | 10.0%         |               | 10.0%         |               |
| <b>Total Real Estate</b>             | <b>10.0%</b>  | <b>5–20%</b>  | <b>10.0%</b>  | <b>5–20%</b>  |
| <b>TOTAL</b>                         | <b>100.0%</b> |               | <b>100.0%</b> |               |

**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, 2022 and 2021, NHRS held deposits of \$23.7 million and \$8.7 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, 2022 and 2021:

**EFFECTIVE DURATION — FIXED INCOME INVESTMENTS  
AT JUNE 30, 2022**

(dollars in thousands)

| <b>Investment Type</b>                  | <b>Fair Value<br/>June 30, 2022</b> | <b>Percentage<br/>of<br/>Fixed Income<br/>Investments</b> | <b>Effective<br/>Duration<br/>in Years</b> | <b>Weighted<br/>Average<br/>Effective<br/>Duration<br/>in Years</b> |
|---|-------------------------------------|---|--|---|
| Collateralized/Asset Backed Obligations | \$ 218,168                          | 10.9%   | 2.9  | 0.3   |
| Corporate Bonds                         | 470,969                             | 23.6  | 6.3  | 1.5   |
| Government and Agency Bonds             | 512,675                             | 25.7  | 6.6  | 1.7   |
| Commingled Fund                         | 197,714                             | 9.9   | 4.1  | 0.4   |
| Commingled Fund                         | 349,094                             | 17.5  | 5.4  | 0.9   |
| Commingled Fund                         | 246,234                             | 12.4  | 1.3  | 0.2   |
| <b>Totals</b>                           | <b>\$1,994,854</b>                  | <b>100.0%</b>   |  | <b>5.0</b>  |

**EFFECTIVE DURATION – FIXED INCOME INVESTMENTS  
AT JUNE 30, 2021**

(dollars in thousands)

| Investment Type                         | Fair Value<br>June 30, 2021 | Percentage<br>of<br>Fixed Income<br>Investments | Effective<br>Duration<br>in Years | Weighted<br>Average<br>Effective<br>Duration<br>in Years |
|---|-----------------------------|---|-----------------------------------|--|
| Collateralized/Asset Backed Obligations | \$ 243,843                  | 11.1%   | 3.5                               | 0.4  |
| Corporate Bonds                         | 574,226                     | 26.2  | 7.9                               | 2.1  |
| Government and Agency Bonds             | 509,853                     | 23.2  | 5.7                               | 1.3  |
| Commingled Fund                         | 220,193                     | 10.0  | 3.5                               | 0.4  |
| Commingled Fund                         | 386,434                     | 17.6  | 6.5                               | 1.1  |
| Commingled Fund                         | 260,239                     | 11.9  | 1.2                               | 0.1  |
| <b>Totals</b>                           | <b>\$2,194,788</b>          | <b>100.0%</b>                                   |                                   | <b>5.4</b>   |

**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, 2022 and 2021, including the distribution of those investments by Standard & Poor's quality credit ratings:

**CREDIT QUALITY RISK – FIXED INCOME SECURITIES AT JUNE 30, 2022**

(in thousands)

| Investment Type                          | Quality Ratings <sup>1</sup> |                  |                 |                  |                  |                 |
|--|------------------------------|------------------|-----------------|------------------|------------------|-----------------|
|  | Fair Value<br>June 30, 2022  | AAA              | AA              | A                | BBB<br>or Lower  | Unrated         |
| Collateralized/Asset Backed Obligations  | \$218,168                    | \$133,905        | \$13,047        | \$ 20,240        | \$ 24,624        | \$26,352        |
| Corporate Bonds                          | 470,969                      | 6,856            | 24,897          | 148,280          | 282,506          | 8,430           |
| Government and Agency Bonds <sup>2</sup> | 128,228                      | 9,477            | 22,063          | 11,256           | 50,917           | 34,515          |
| Commingled Fund <sup>3</sup>             | 349,094                      | —                | —               | —                | 349,094          | —               |
| Commingled Fund <sup>3</sup>             | 246,234                      | —                | —               | 246,234          | —                | —               |
| Commingled Fund <sup>3</sup>             | 197,714                      | —                | —               | 197,714          | —                | —               |
| <b>Totals</b>                            | <b>\$1,610,407</b>           | <b>\$150,238</b> | <b>\$60,007</b> | <b>\$623,724</b> | <b>\$707,141</b> | <b>\$69,298</b> |
| <b>Percent of Total Fair Value</b>       |                              | <b>9.33%</b>     | <b>3.73%</b>    | <b>38.73%</b>    | <b>43.91%</b>    | <b>4.30%</b>    |

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

<sup>2</sup>Government and Agency Bonds exclude U.S. government securities and securities explicitly guaranteed by the U.S. government (\$384,447) because these securities are not considered to have credit risk.

<sup>3</sup>Average 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, 2021** (in thousands)

| Investment Type                          | Quality Ratings <sup>1</sup> |                  |                 |                  |                    |                 |
|--|------------------------------|------------------|-----------------|------------------|--------------------|-----------------|
|  | Fair Value<br>June 30, 2021  | AAA              | AA              | A                | BBB<br>or Lower    | Unrated         |
| Collateralized/Asset Backed Obligations  | \$ 243,843                   | \$152,550        | \$ 6,004        | \$ 17,387        | \$ 28,728          | \$39,174        |
| Corporate Bonds                          | 574,226                      | 4,675            | 26,024          | 135,751          | 397,849            | 9,927           |
| Government and Agency Bonds <sup>2</sup> | 125,942                      | 5,775            | 21,275          | 20,619           | 71,732             | 6,541           |
| Commingled Fund <sup>3</sup>             | 260,239                      | —                | —               | —                | 260,239            | —               |
| Commingled Fund <sup>3</sup>             | 386,434                      | —                | —               | —                | 386,434            | —               |
| Commingled Fund <sup>3</sup>             | 220,193                      | —                | —               | —                | 220,193            | —               |
| <b>Totals</b>                            | <b>\$1,810,877</b>           | <b>\$163,000</b> | <b>\$53,303</b> | <b>\$173,757</b> | <b>\$1,365,175</b> | <b>\$55,642</b> |
| <b>Percent of Total Fair Value</b>       |                              | <b>9.00%</b>     | <b>2.94%</b>    | <b>9.60%</b>     | <b>75.39%</b>      | <b>3.07%</b>    |

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

<sup>2</sup>Government and Agency Bonds exclude U.S. government securities and securities explicitly guaranteed by the U.S. government (\$383,911) because these securities are not considered to have credit risk.

<sup>3</sup>Average credit quality ratings for the commingled funds was provided by Blackrock SIO, Fidelity and Manulife 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, 2022, 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, 2022, non-U.S. fixed income securities represent 1% 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, 2022 and 2021 is presented on the following schedules:

**FOREIGN CURRENCY RISK — NON-U.S. INVESTMENTS** (in thousands)  
**AS OF JUNE 30, 2022**

| Currency  | Equity*           | Fixed Income      | Real Estate & Alternative Investments | Cash and Cash Equivalents** | Totals             |
|---|-------------------|-------------------|---------------------------------------|-----------------------------|--------------------|
| Australian Dollar   | \$ 8,696          | \$ 10,694         | \$ —                                  | \$ 4                        | \$ 19,394          |
| Brazilian Real  | 3,171             | 13,267            | —                                     | 3                           | 16,441             |
| Canadian Dollar   | 76,092            | —                 | 23,100                                | 51,252                      | 150,444            |
| Colombian Peso  | —                 | 7,177             | —                                     | 53                          | 7,230              |
| Danish Krone  | 19,410            | —                 | —                                     | —                           | 19,410             |
| Euro  | 385,158           | 15,135            | 60,133                                | (657)                       | 459,769            |
| Hong Kong Dollar  | 28,972            | —                 | —                                     | —                           | 28,972             |
| Israeli Shekel  | 3,723             | —                 | —                                     | —                           | 3,723              |
| Japanese Yen  | 93,324            | —                 | 7,335                                 | 431,650                     | 532,309            |
| Malaysian Ringgit   | —                 | 6,625             | —                                     | —                           | 6,625              |
| Mexican Peso  | 2,086             | 23,071            | —                                     | —                           | 25,157             |
| New Taiwan Dollar   | 3,122             | —                 | —                                     | —                           | 3,122              |
| Polish Zloty  | —                 | 2,930             | —                                     | —                           | 2,930              |
| Pound Sterling  | 166,044           | (428)             | 985                                   | 116,352                     | 282,953            |
| Singapore Dollar  | 3,775             | —                 | —                                     | —                           | 3,775              |
| South African Rand  | —                 | 9,026             | —                                     | 16                          | 9,042              |
| South Korean Won  | 14,146            | 15,157            | —                                     | 208                         | 29,511             |
| Swedish Krona   | 9,288             | —                 | —                                     | —                           | 9,288              |
| Swiss Franc   | 82,058            | —                 | —                                     | (51)                        | 82,007             |
| <b>Total investments subject to foreign currency risk</b> | <b>\$ 899,065</b> | <b>\$ 102,654</b> | <b>\$ 91,553</b>                      | <b>\$ 598,830</b>           | <b>\$1,692,102</b> |

\*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.

\*\*Amounts in cash and cash equivalents reflects actual foreign cash held by managers and does not reflect other items shown in cash and cash equivalents on the Statement of Changes in Net Position.

**FOREIGN CURRENCY RISK — NON-U.S. INVESTMENTS** (in thousands)  
**AS OF JUNE 30, 2021**

| Currency  | Equity*            | Fixed Income       | Real Estate & Alternative Investments | Cash and Cash Equivalents** | Totals             |
|---|--------------------|--------------------|---------------------------------------|-----------------------------|--------------------|
| Australian Dollar   | \$ 10,063          | \$ 12,463          | \$ —                                  | \$ 4                        | \$ 22,530          |
| Brazilian Real  | 1,558              | 9,373              | —                                     | —                           | 10,931             |
| Canadian Dollar   | 59,802             | —                  | 18,683                                | —                           | 78,485             |
| Colombian Peso  | —                  | 9,575              | —                                     | —                           | 9,575              |
| Danish Krone  | 31,630             | —                  | —                                     | —                           | 31,630             |
| Euro  | 461,338            | 509                | 97,026                                | 122,408                     | 681,281            |
| Hong Kong Dollar  | 54,452             | —                  | —                                     | —                           | 54,452             |
| Indian Rupee  | —                  | 662                | —                                     | —                           | 662                |
| Indonesian Rupiah   | 1,829              | 9,555              | —                                     | —                           | 11,384             |
| Israeli Shekel  | 3,191              | —                  | —                                     | —                           | 3,191              |
| Japanese Yen  | 136,673            | —                  | 15,240                                | 508,996                     | 660,909            |
| Malaysian Ringgit   | —                  | 10,135             | —                                     | —                           | 10,135             |
| Mexican Peso  | 3,509              | 26,209             | —                                     | —                           | 29,718             |
| New Taiwan Dollar   | 7,367              | —                  | —                                     | —                           | 7,367              |
| Polish Zloty  | —                  | 3,907              | —                                     | —                           | 3,907              |
| Pound Sterling  | 148,935            | —                  | 1,243                                 | 28                          | 150,206            |
| Russian Ruble (New)                                       | —                  | 1,382              | —                                     | —                           | 1,382              |
| Singapore Dollar  | 3,925              | —                  | —                                     | —                           | 3,925              |
| South African Rand  | —                  | 13,844             | —                                     | 19                          | 13,863             |
| South Korean Won  | 37,772             | —                  | —                                     | —                           | 37,772             |
| Swedish Krona   | 9,718              | —                  | —                                     | —                           | 9,718              |
| Swiss Franc   | 126,715            | 1,149,029          | —                                     | —                           | 1,275,744          |
| <b>Total investments subject to foreign currency risk</b> | <b>\$1,098,477</b> | <b>\$1,246,643</b> | <b>\$132,192</b>                      | <b>\$ 631,455</b>           | <b>\$3,108,767</b> |



\*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.

\*\*Amounts in cash and cash equivalents reflects actual foreign cash held by managers and does not reflect other items shown in cash and cash equivalents on the Statement of Changes in 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.

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, 2022 and 2021, the Plans' combined investment in asset-backed and mortgage-backed securities held in separate account portfolios totaled \$229.1 million and \$816.9 million, respectively.

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, 2022 and June 30, 2021 are shown below:

| Derivative Type | Notional Amounts    |                     | Fair Value          |                     |
|-----------------|---------------------|---------------------|---------------------|---------------------|
|                 | 2022                | 2021                | 2022                | 2021                |
| Futures         |                     |                     |                     |                     |
| Fixed Income    | \$42,134,802        | \$ 8,784,908        | \$40,641,804        | \$ 9,002,000        |
| Equity          | \$ 4,236,914        | \$ 3,811,185        | \$ 4,168,450        | \$ 3,859,740        |
| <b>TOTAL</b>    | <b>\$46,371,716</b> | <b>\$12,596,093</b> | <b>\$44,810,254</b> | <b>\$12,861,740</b> |

Foreign currency exchange contracts open June 30, 2022 and 2021 are shown below and on the following page:

## OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS AT JUNE 30, 2022

(in thousands)

|  | Local<br>Currency<br>Amount | Effective<br>Date | Maturity<br>Date | Original Foreign<br>Exchange<br>Rate | Unrealized<br>Appreci-<br>ation<br>(USD) | Unrealized<br>(Depre-<br>ciation)<br>(USD) |
|--|-----------------------------|-------------------|------------------|--------------------------------------|--|--|
| Foreign currency exchange contracts purchased: |                             |                   |                  |                                      |  |  |
| CHILEAN PESO                                   | 3,930,000                   | 2/25/22           | 7/11/22          | 819.610000 CLP/USD                   | —  | (606.07)                                   |
| CHILEAN PESO                                   | 11,490,000                  | 4/18/22           | 7/11/22          | 828.850000 CLP/USD                   | —  | (1,615.67)                                 |
| CHILEAN PESO                                   | 3,670,000                   | 4/4/22            | 7/11/22          | 790.350000 CLP/USD                   | —  | (731.75)                                   |
| COLOMBIAN PESO                                 | 2,100,000                   | 5/11/22           | 7/28/22          | 4,123.009963 COP/USD                 | —  | (6.89)                                     |
| EURO   | 285                         | 6/30/22           | 7/1/22           | 0.953712 EUR/USD                     | —  | (0.88)                                     |
| EURO   | 0                           | 6/30/22           | 7/1/22           | 0.955711 EUR/USD                     | —  | —  |
| EURO   | 57,440                      | 4/21/22           | 7/26/22          | 0.917861 EUR/USD                     | —  | (2,442.85)                                 |
| HUNGARIAN FORINT                               | 2,950,000                   | 5/11/22           | 8/23/22          | 365.272500 HUF/USD                   | —  | (366.51)                                   |
| JAPANESE YEN                                   | 6,632,000                   | 6/16/22           | 9/26/22          | 131.243000 JPY/USD                   | —  | (1,424.50)                                 |
| MEXICAN PESO                                   | 13,500                      | 6/15/22           | 8/24/22          | 20.852100 MXN/USD                    | 15.52                                    | —  |
| POLISH ZLOTY                                   | 55,000                      | 4/22/22           | 7/27/22          | 4.353500 PLN/USD                     | —  | (439.95)                                   |
| POLISH ZLOTY                                   | 31,520                      | 4/11/22           | 7/27/22          | 4.312500 PLN/USD                     | —  | (320.97)                                   |

**OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS**  
**AT JUNE 30, 2022**
**CONTINUED**

(in thousands)

|   | Local<br>Currency<br>Amount | Effective<br>Date | Maturity<br>Date | Original Foreign<br>Exchange<br>Rate | Unrealized<br>Appreci-<br>ation<br>(USD) | Unrealized<br>(Depre-<br>ciation)<br>(USD) |
|---|-----------------------------|-------------------|------------------|--------------------------------------|--|--|
| Foreign currency exchange contracts purchased: — <i>CONTINUED</i> |                             |                   |                  |                                      |  |  |
| SOUTH KOREAN WON  | 690,000                     | 6/16/22           | 7/28/22          | 1,286.750000 KRW/USD                 | —  | (4.48)                                     |
| SWEDISH KRONA   | 116,300                     | 4/5/22            | 7/7/22           | 9.394600 SEK/USD                     | —  | (1,029.14)                                 |
| SWEDISH KRONA   | 116,300                     | 6/29/22           | 10/7/22          | 10.171100 SEK/USD                    | —  | (37.50)                                    |
| THAILAND BAHT   | 85,200                      | 5/6/22            | 8/10/22          | 34.281000 THB/USD                    | —  | (71.58)                                    |
| Foreign currency exchange contracts sold:                         |                             |                   |                  |                                      |  |  |
| AUSTRALIAN DOLLAR   | 15,030                      | 5/10/22           | 9/7/22           | 0.694180 USD/AUD                     | 92.58                                    | —  |
| BRAZIL REAL   | 5,380                       | 4/13/22           | 7/18/22          | 4.819000 USD/BRL                     | 92.04                                    | —  |
| BRAZIL REAL   | 12,570                      | 5/9/22            | 7/18/22          | 5.245500 USD/BRL                     | 2.97                                     | —  |
| BRAZIL REAL   | 11,070                      | 5/10/22           | 7/18/22          | 5.235800 USD/BRL                     | 6.53                                     | —  |
| BRAZIL REAL   | 11,610                      | 6/13/22           | 7/18/22          | 5.151429 USD/BRL                     | 43.16                                    | —  |
| BRAZIL REAL   | 10,980                      | 6/14/22           | 7/18/22          | 5.170450 USD/BRL                     | 32.98                                    | —  |
| CHILEAN PESO  | 1,970,000                   | 6/23/22           | 7/11/22          | 903.345000 USD/CLP                   | 81.01                                    | —  |
| CHILEAN PESO  | 1,760,000                   | 6/24/22           | 7/11/22          | 912.600000 USD/CLP                   | 52.61                                    | —  |
| COLOMBIAN PESO  | 31,300,000                  | 4/26/22           | 7/28/22          | 4,005.400000 USD/COP                 | 325.58                                   | —  |
| PAYABLE IN EURO CURRENCY UNIT                                     | 10,070                      | 4/27/22           | 7/26/22          | 1.060795 USD/EUR                     | 139.31                                   | —  |
| EURO  | 4,810                       | 4/28/22           | 7/26/22          | 1.054685 USD/EUR                     | 37.15                                    | —  |
| EURO  | 630                         | 4/29/22           | 7/26/22          | 1.062352 USD/EUR                     | 9.70                                     | —  |
| EURO  | 8,560                       | 5/12/22           | 7/26/22          | 1.041760 USD/EUR                     | —  | (44.52)                                    |
| EURO  | 652                         | 6/29/22           | 7/1/22           | 1.045081 USD/EUR                     | —  | (0.24)                                     |
| EURO  | 140                         | 6/29/22           | 7/1/22           | 0.956553 USD/EUR                     | —  | (0.00)                                     |
| EURO  | 163                         | 6/30/22           | 7/5/22           | 1.048300 USD/EUR                     | 0.45                                     | —  |
| JAPANESE YEN  | 30,806                      | 6/29/22           | 7/1/22           | 136.764000 USD/JPY                   | —  | (1.51)                                     |
| JAPANESE YEN  | 1,794                       | 6/29/22           | 7/1/22           | 136.656520 USD/JPY                   | —  | (0.08)                                     |
| JAPANESE YEN  | 1,715                       | 6/29/22           | 7/1/22           | 136.907000 USD/JPY                   | —  | (0.10)                                     |
| JAPANESE YEN  | 4,866                       | 6/29/22           | 7/1/22           | 136.968000 USD/JPY                   | —  | (0.29)                                     |
| JAPANESE YEN  | 1,507                       | 6/29/22           | 7/1/22           | 136.656520 USD/JPY                   | —  | (0.07)                                     |
| JAPANESE YEN  | 2,365                       | 6/30/22           | 7/5/22           | 135.690000 USD/JPY                   | 0.02                                     | —  |
| MALAYSIAN RINGGIT   | 27,700                      | 6/10/22           | 9/21/22          | 4.418500 USD/MYR                     | —  | (12.26)                                    |
| MEXICAN PESO  | 426,800                     | 5/18/22           | 8/24/22          | 20.362800 USD/MXN                    | 1.17                                     | —  |
| MEXICAN PESO  | 180                         | 6/29/22           | 7/1/22           | 20.145500 USD/MXN                    | 0.01                                     | —  |
| POLISH ZLOTY  | 43,160                      | 5/13/22           | 7/27/22          | 4.554630 USD/PLN                     | —  | (92.55)                                    |
| POUND STERLING  | 25                          | 6/29/22           | 7/1/22           | 1.213590 USD/GBP                     | —  | (0.02)                                     |
| POUND STERLING  | 647                         | 6/30/22           | 7/5/22           | 1.217289 USD/GBP                     | 1.83                                     | —  |
| POUND STERLING  | 3                           | 6/30/22           | 7/5/22           | 1.217410 USD/GBP                     | 0.01                                     | —  |
| POUND STERLING  | 32                          | 6/30/22           | 7/5/22           | 1.209920 USD/GBP                     | —  | (0.14)                                     |
| SOUTH AFRICAN RAND  | 150,400                     | 5/11/22           | 8/17/22          | 16.234500 USD/ZAR                    | 125.10                                   | —  |
| SOUTH KOREAN WON  | 13,840,000                  | 4/26/22           | 7/28/22          | 1,255.652000 USD/KRW                 | 356.16                                   | —  |
| SOUTH KOREAN WON  | 5,930,000                   | 6/9/22            | 9/13/22          | 1,260.180000 USD/KRW                 | 127.94                                   | —  |
| SOUTH KOREAN WON  | 4,071                       | 6/30/22           | 7/1/22           | 1,301.123963 USD/KRW                 | —  | (0.01)                                     |
| SWEDISH KRONA   | 116,300                     | 6/29/22           | 7/7/22           | 10.212500 USD/SEK                    | 37.70                                    | —  |
| SWISS FRANC   | 464                         | 6/30/22           | 7/5/22           | 0.953826 USD/CHF                     | 1.76                                     | —  |
| <b>Totals</b>   |                             |                   |                  |                                      | <b>\$1,583.29</b>                        | <b>(9,250.53)</b>                          |

**OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS**  
**AT JUNE 30, 2021**

(in thousands)

|  | Local<br>Currency<br>Amount | Effective<br>Date | Maturity<br>Date | Original Foreign<br>Exchange<br>Rate | Unrealized<br>Appreci-<br>ation<br>(USD) | Unrealized<br>(Depre-<br>ciation)<br>(USD) |
|--|-----------------------------|-------------------|------------------|--------------------------------------|--|--|
| Foreign currency exchange contracts purchased: |                             |                   |                  |                                      |  |  |
| Brazil Real                                    | 21,790                      | 4/8/21            | 7/14/21          | 5.614600 BRL / USD                   | 456                                      | —  |
| Canadian Dollar                                | 49                          | 6/29/21           | 7/2/21           | 1.239980 CAD / USD                   | —  | —  |
| Canadian Dollar                                | 114                         | 6/30/21           | 7/2/21           | 1.239790 CAD / USD                   | —  | —  |
| Chilean Peso                                   | 2,810,000                   | 4/13/21           | 7/23/21          | 707.420000 CLP / USD                 | —  | (115)                                      |

**OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS  
AT JUNE 30, 2021**
**CONTINUED**  
(in thousands)

|   | Local<br>Currency<br>Amount | Effective<br>Date | Maturity<br>Date | Original Foreign<br>Exchange<br>Rate | Unrealized<br>Appreci-<br>ation<br>(USD) | Unrealized<br>(Depre-<br>ciation)<br>(USD) |
|---|-----------------------------|-------------------|------------------|--------------------------------------|--|--|
| Foreign currency exchange contracts purchased: — <i>CONTINUED</i> |                             |                   |                  |                                      |  |  |
| Chilean Peso  | 2,610,000                   | 4/23/21           | 8/6/21           | 714.210000 CLP / USD                 | —  | (73)                                       |
| Chilean Peso  | 3,930,000                   | 5/6/21            | 9/3/21           | 699.565000 CLP / USD                 | —  | (229)                                      |
| Chilean Peso  | 3,670,000                   | 6/3/21            | 10/1/21          | 720.764000 CLP / USD                 | —  | (64)                                       |
| Chilean Peso  | 6,070,000                   | 6/11/21           | 10/8/21          | 723.730000 CLP / USD                 | —  | (73)                                       |
| Colombian Peso  | 5,795,000                   | 4/15/21           | 7/29/21          | 3,622.950000 COP / USD               | —  | (50)                                       |
| Euro  | 114                         | 6/29/21           | 7/1/21           | 0.840492 EUR / USD                   | —  | —  |
| Euro  | 22                          | 6/30/21           | 7/2/21           | 0.843953 EUR / USD                   | —  | —  |
| Euro  | 10,720                      | 6/15/21           | 7/26/21          | 1.213217 EUR / USD                   | —  | (287)                                      |
| Euro  | 11,270                      | 4/9/21            | 7/26/21          | 1.192180 EUR / USD                   | —  | (64)                                       |
| Euro  | 7,750                       | 5/18/21           | 7/26/21          | 1.224030 EUR / USD                   | —  | (291)                                      |
| Hungarian Forint  | 1,450,000                   | 4/22/21           | 7/30/21          | 301.920000 HUF / USD                 | 95                                       | —  |
| Hungarian Forint  | 1,500,000                   | 5/4/21            | 8/10/21          | 299.825000 HUF / USD                 | 62                                       | —  |
| Indonesian Rupiah   | 1,169,814                   | 6/30/21           | 7/1/21           | 14,520.250000 IDR / USD              | —  | —  |
| Japanese Yen  | 6,460                       | 6/29/21           | 7/1/21           | 110.560000 JPY / USD                 | —  | —  |
| Japanese Yen  | 5,281                       | 6/30/21           | 7/2/21           | 111.011000 JPY / USD                 | —  | —  |
| New Zealand Dollar  | 7,500                       | 4/15/21           | 7/19/21          | 0.715495 NZD / USD                   | —  | (126)                                      |
| Polish Zlotty   | 31,520                      | 4/7/21            | 7/13/21          | 3.848500 PLN / USD                   | 90                                       | —  |
| Polish Zlotty   | 40,370                      | 4/9/21            | 7/20/21          | 3.809200 PLN / USD                   | 7  | —  |
| Polish Zlotty   | 13,970                      | 4/20/21           | 7/27/21          | 3.773825 PLN / USD                   | —  | (32)                                       |
| Pound Sterling  | 346                         | 6/29/21           | 7/1/21           | 1.384323 GBP / USD                   | —  | (1)  |
| Pound Sterling  | 122                         | 6/30/21           | 7/2/21           | 1.380880 GBP / USD                   | —  | —  |
| Pound Sterling  | 389                         | 6/30/21           | 7/2/21           | 1.380952 GBP / USD                   | —  | —  |
| Pound Sterling  | 10,570                      | 6/2/21            | 8/19/21          | 1.417635 GBP / USD                   | —  | (380)                                      |
| Russian Ruble   | 338,000                     | 5/6/21            | 8/12/21          | 75.175000 RUB / USD                  | 105                                      | —  |
| Russian Ruble   | 408,000                     | 5/14/21           | 8/26/21          | 74.830000 RUB / USD                  | 91                                       | —  |
| South Korean Won  | 5,170,000                   | 4/12/21           | 7/16/21          | 1,124.200000 KRW / USD               | —  | (24)                                       |
| South Korean Won  | 5,410,000                   | 4/22/21           | 7/29/21          | 1,117.920000 KRW / USD               | —  | (52)                                       |
| South Korean Won  | 6,500,000                   | 6/3/21            | 9/13/21          | 1,114.140000 KRW / USD               | —  | (83)                                       |
| Thailand Baht   | 24,500                      | 5/11/21           | 7/13/21          | 31.080000 THB / USD                  | —  | (23)                                       |
| Thailand Baht   | 31,100                      | 4/30/21           | 8/6/21           | 31.240000 THB / USD                  | —  | (25)                                       |
| Thailand Baht   | 29,600                      | 5/5/21            | 8/13/21          | 31.235000 THB / USD                  | —  | (24)                                       |
| Foreign currency exchange contracts sold:                         |                             |                   |                  |                                      |  |  |
| Australian Dollar   | 460                         | 6/16/21           | 8/25/21          | 0.770930 USD / AUD                   | 9  | —  |
| Australian Dollar   | 15,780                      | 5/18/21           | 8/25/21          | 0.778690 USD / AUD                   | 438                                      | —  |
| Euro  | 26                          | 6/29/21           | 7/1/21           | 1.189500 USD / EUR                   | —  | —  |
| Euro  | 872                         | 6/29/21           | 7/1/21           | 1.189470 USD / EUR                   | 3  | —  |
| Euro  | 22                          | 6/29/21           | 7/1/21           | 1.190080 USD / EUR                   | —  | —  |
| Euro  | 3,500                       | 6/17/21           | 7/26/21          | 1.191770 USD / EUR                   | 19                                       | —  |
| Euro  | 7,870                       | 6/18/21           | 7/26/21          | 1.188790 USD / EUR                   | 18                                       | —  |
| Euro  | 80                          | 6/30/21           | 7/2/21           | 1.186300 USD / EUR                   | —  | —  |
| Euro  | 373                         | 6/30/21           | 7/2/21           | 1.185226 USD / EUR                   | —  | —  |
| Euro  | 33                          | 6/30/21           | 7/2/21           | 1.185000 USD / EUR                   | —  | —  |
| Indonesian Rupiah   | 66,600,000                  | 5/18/21           | 7/28/21          | 14,442.510000 USD / IDR              | 44                                       | —  |
| Indonesian Rupiah   | 66,600,000                  | 5/18/21           | 7/28/21          | 14,442.510000 USD / IDR              | 44                                       | —  |
| Japanese Yen  | 7,755                       | 6/29/21           | 7/1/21           | 110.670560 USD / JPY                 | —  | —  |
| Japanese Yen  | 600                         | 6/29/21           | 7/1/21           | 110.670560 USD / JPY                 | —  | —  |
| Japanese Yen  | 4,977                       | 6/30/21           | 7/2/21           | 111.109000 USD / JPY                 | —  | —  |
| Japanese Yen  | 14,304                      | 6/30/21           | 7/2/21           | 110.688000 USD / JPY                 | —  | —  |
| Mexican Peso  | 24,800                      | 5/3/21            | 8/13/21          | 20.495800 USD / MXN                  | —  | (29)                                       |
| New Zealand Dollar  | 4,130                       | 6/3/21            | 7/19/21          | 0.713393 USD / NZD                   | 61                                       | —  |
| New Zealand Dollar  | 3,370                       | 6/4/21            | 7/19/21          | 0.718300 USD / NZD                   | 66                                       | —  |
| Pound Sterling  | 23                          | 6/29/21           | 7/1/21           | 1.385000 USD / GBP                   | —  | —  |
| Pound Sterling  | 113                         | 6/30/21           | 7/2/21           | 1.383370 USD / GBP                   | —  | —  |
| South African Rand  | 10,100                      | 5/17/21           | 8/17/21          | 14.285300 USD / ZAR                  | —  | —  |
| South African Rand  | 178,900                     | 5/6/21            | 8/17/21          | 14.433900 USD / ZAR                  | —  | (63)                                       |
| South Korean Won  | 5,170,000                   | 6/21/21           | 7/16/21          | 1,135.020000 USD / KRW               | —  | (20)                                       |

**OPEN FOREIGN CURRENCY EXCHANGE CONTRACTS  
AT JUNE 30, 2021**
**CONTINUED**

(in thousands)

|  | Local<br>Currency<br>Amount | Effective<br>Date | Maturity<br>Date | Original Foreign<br>Exchange<br>Rate | Unrealized<br>Appreci-<br>ation<br>(USD) | Unrealized<br>(Depre-<br>ciation)<br>(USD) |
|--|-----------------------------|-------------------|------------------|--------------------------------------|--|--|
| Foreign currency exchange contracts sold: — <i>CONTINUED</i> |                             |                   |                  |                                      |  |  |
| South Korean Won   | 360,000                     | 6/21/21           | 7/29/21          | 1,135.020000 USD / KRW               | —  | (2)  |
| South Korean Won   | 5,050,000                   | 6/22/21           | 7/29/21          | 1,135.243000 USD / KRW               | —  | (20)                                       |
| South Korean Won   | 6,500,000                   | 6/23/21           | 9/13/21          | 1,135.135000 USD / KRW               | —  | (24)                                       |
| Swedish Krona  | 464                         | 6/30/21           | 7/2/21           | 8.557360 USD / SEK                   | —  | —  |
| Swedish Krona  | 3,920                       | 6/29/21           | 7/1/21           | 8.528470 USD / SEK                   | 1  | —  |
| Swiss Franc  | 194                         | 6/30/21           | 7/2/21           | 0.925578 USD / CHF                   | —  | —  |
| Swiss Franc  | 28                          | 6/30/21           | 7/2/21           | 0.925450 USD / CHF                   | —  | —  |
| Swiss Franc  | 189                         | 6/29/21           | 7/2/21           | 0.921267 USD / CHF                   | 1  | —  |
| <b>Totals</b>  |                             |                   |                  |                                      | <b>\$1,610</b>                           | <b>\$(2,174)</b>                           |

**NOTE 4 – FAIR VALUE MEASUREMENTS OF INVESTMENTS**

In accordance with GASB 72, except for investments measured using Net Asset Value (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 or 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, 2022 and 2021.

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 NAV as a practical expedient are not classified in the fair value hierarchy. At June 30, 2022 and 2021 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, 2022 and 2021.

| Investments at Fair Value       | June 30, 2022       |  |   |   |                       | Unfunded Commitments |
|---------------------------------|---------------------|--|---|---|-----------------------|----------------------|
|                                 | Total               | Fair Value Measurements Using                                  |   |   | Net Asset Value (NAV) |                      |
|                                 |                     | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |                       |                      |
| <b>Fixed Income:</b>            |                     |  |   |   |                       |                      |
| U.S Government Obligations (1)  | 381,072             | 337,563  | 43,509  | —   | —                     | —                    |
| Domestic Fixed Income (2)       | 717,659             | —  | 717,659                                       | —   | —                     | —                    |
| Commingled Funds (3)            | 793,042             | —  | —   | —   | 793,042               | —                    |
| International Fixed Income (4)  | 103,081             | —  | 103,081                                       | —   | —                     | —                    |
| <b>Equity:</b>                  |                     |  |   |   |                       |                      |
| Domestic Equity Securities      | 3,419,542           | 3,415,566  | 3,976   | —   | —                     | —                    |
| Commingled Funds (5)            | 425,506             | —  | —   | —   | 425,506               | —                    |
| International Equity Securities | 906,250             | 906,250  | —   | —   | —                     | —                    |
| <b>Real Estate:</b>             |                     |  |   |   |                       |                      |
| Real Estate Funds (6)           | 1,431,776           | —  | —   | —   | 1,431,776             | 173,009              |
| <b>Alternative Investments:</b> |                     |  |   |   |                       |                      |
| Private Equity (7)              | 1,660,092           | —  | —   | —   | 1,660,092             | 1,400,225            |
| Private Debt (8)                | 552,630             | —  | —   | —   | 552,630               | 405,793              |
| <b>Total Investments</b>        | <b>\$10,390,650</b> | <b>\$4,659,379</b>   | <b>\$868,225</b>                              | <b>—</b>                                  | <b>\$4,863,046</b>    | <b>\$1,979,027</b>   |

The System has \$243.3M 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 2022 rates range from 0.125% to 5.490%, and maturities from 2022 to 2051.

(2) Fiscal 2022 rates range from 0.00% to 9.375%, and maturities from 2022 to 2122.

(3) This represents investments in three 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 2022 rates range from 0.00% to 10.00%, and maturities from 2022 to 2053.

(5) This represents investments in three commingled equity fund that invests 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 64 real estate vehicles consisting of 17 strategic open-end funds and 52 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, 2022.

(7) This represents 52 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, 2021

| Fair Value Measurements Using <span style="float: right;">(in thousands)</span> |                     |   |   |  |                          |                         |
|---|---------------------|---|---|--|--------------------------|-------------------------|
| Investments at Fair Value   | Total               | Quoted Prices in<br>Active Markets<br>for Identical Assets<br>(Level 1) | Significant<br>Other<br>Observable<br>Inputs<br>(Level 2) | Significant<br>Unobservable<br>Inputs<br>(Level 3) | Net Asset<br>Value (NAV) | Unfunded<br>Commitments |
| <b>Fixed Income:</b>  |                     |   |   |  |                          |                         |
| U.S Government Obligations (1)  | 388,029             | 327,309   | 60,720  | —  | —                        | —                       |
| Domestic Fixed Income (2)   | 841,129             | —   | 841,129   | —  | —                        | —                       |
| Commingled Funds (3)  | 866,867             | —   | —   | —  | 866,867                  | —                       |
| International Fixed Income (4)  | 98,763              | —   | 98,763  | —  | —                        | —                       |
| <b>Equity:</b>  |                     |   |   |  |                          |                         |
| Domestic Equity Securities  | 3,954,960           | 3,949,226   | 5,734   | —  | —                        | —                       |
| Commingled Funds (5)  | 589,378             | —   | —   | —  | 589,378                  | —                       |
| International Equity Securities   | 1,121,309           | 1,121,309   | —   | —  | —                        | —                       |
| <b>Real Estate:</b>   |                     |   |   |  |                          |                         |
| Real Estate Funds (6)   | 1,129,863           | —   | —   | —  | 1,129,863                | 261,723                 |
| <b>Alternative Investments:</b>   |                     |   |   |  |                          |                         |
| Private Equity (7)  | 1,643,888           | —   | —   | —  | 1,643,888                | 731,325                 |
| Private Debt (8)  | 572,100             | —   | —   | —  | 572,100                  | 357,701                 |
| <b>Total Investments</b>  | <b>\$11,206,286</b> | <b>\$5,397,844</b>  | <b>\$1,006,346</b>  | <b>\$—</b>   | <b>\$4,802,096</b>       | <b>\$1,325,749</b>      |

The System has \$287.4M 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 2021 rates range from 0.125% to 5.490%, and maturities from 2022 to 2050.
- (2) Fiscal 2021 rates range from 0.00% to 8.375%, and maturities from 2022 to 2069.
- (3) This represents investments in three 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 2021 rates range from 3.00% to 10.000%, and maturities from 2021 to 2048.
- (5) This represents investments in three 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 65 real estate vehicles consisting of 12 strategic open-end funds and 53 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, 2021.

|                                  |  |
|----------------------------------|--|
| <b>Actuarial Cost Method</b>     | Entry age normal   |
| <b>Price Inflation</b>           | 2.0%   |
| <b>Wage Inflation</b>            | 2.75% (2.25% for Teachers)   |
| <b>Salary Increases</b>          | 5.4% average, including inflation for both years   |
| <b>Investment Rate of Return</b> | 6.75%, net of investment expenses, including inflation for both years  |
| <b>Retirement Age</b>            | Experience-based table of rates that is specific to the type of eligibility condition updated per each experience study completed.   |
| <b>Mortality</b>                 | 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 |

- (7) This represents 41 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 28 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)<br>Total Pension Liability | (b)<br>Plan Net Position | (c)<br>Net Pension Liability (a-b) | (d)<br>Plan Net Position as a % of Total Pension Liability (b/a) |
|-------------------|--------------------------------|--------------------------|------------------------------------|--|
| 6/30/2022         | \$16,444,488                   | \$10,708,357             | \$5,736,131                        | 65.1%  |
| 6/30/2021         | \$15,955,798                   | \$11,523,879             | \$4,431,919                        | 72.2%  |

**ACTUARIAL ASSUMPTIONS**

The total pension liability as of June 30, 2022 is based on an actuarial valuation performed as of June 30, 2021 rolled forward to June 30, 2022, utilizing procedures incorporating the actuarial assumptions.

A single discount rate of 6.75% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 6.75%, which is not reported net of the inflation assumption used to obtain the weighted returns shown on page 46. 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% | Current Single Rate Assumption of 6.75% | 1% Increase to 7.75% |
|-------------------|----------------------|---|----------------------|
| 6/30/2022         | \$7,696,442          | \$5,736,131                             | \$4,106,315          |
| 6/30/2021         | \$6,338,152          | \$4,431,919                             | \$2,841,810          |

The June 30, 2021 actuarial valuation rolled forward to June 30, 2022 used the following actuarial assumptions:

|                                  |  |
|----------------------------------|--|
| <b>Actuarial Cost Method</b>     | Entry age normal   |
| <b>Price Inflation</b>           | 2.0%   |
| <b>Wage Inflation</b>            | 2.75% (2.25% for Teachers)   |
| <b>Salary Increases</b>          | 5.4% average, including inflation during both years  |
| <b>Investment Rate of Return</b> | 6.75% net of investment expenses, including inflation for both years   |
| <b>Retirement Age</b>            | Experience-based table of rates that is specific to the type of eligibility condition updated per each experience study completed.   |
| <b>Mortality</b>                 | 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 |
| <b>Health Care Trend Rates</b>   | N/A — Benefits are fixed stipends  |
| <b>Aging Factors</b>             | N/A — Benefits are fixed stipends  |

The actuarial assumptions used in the June 30, 2021 valuation to calculate the total pension liability as of June 30, 2022 were based on the results of an actuarial experience study for the period from July 1, 2015 to June 30, 2019.

**OPEB**

The net OPEB liability of employers as of June 30, 2022 and 2021 is shown below:

| <b>SCHEDULE OF NET OPEB LIABILITY OF EMPLOYERS</b> |                                     |                                  |   |  | (\$ in thousands) |
|--|-------------------------------------|----------------------------------|---|--|-------------------|
| <b>Fiscal Year Ended</b>                           | <b>(a)<br/>Total OPEB Liability</b> | <b>(b)<br/>Plan Net Position</b> | <b>(c)<br/>Net OPEB Liability (a-b)</b> | <b>(d)<br/>Plan Net Position as a % of Total Pension Liability (b/a)</b> |                   |
| 6/30/22  | \$422,880                           | \$44,992                         | \$377,888                               | 10.6%  |                   |
| 6/30/21  | \$450,252                           | \$49,975                         | \$400,457                               | 11.1%  |                   |

**ACTUARIAL ASSUMPTIONS**

The total OPEB liability as of June 30, 2022 is based on an actuarial valuation performed as of June 30, 2021 rolled forward to June 30, 2022, utilizing procedures incorporating the actuarial assumptions.

A single discount rate of 6.75% was used to measure the total OPEB liability. This single discount rate was based on the expected rate of return on OPEB plan investments of 6.75%, which is not reported net of the inflation assumption used to obtain the weighted returns shown on pg. 46. 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.

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

| <b>SENSITIVITY OF THE NET OPEB LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION</b> |                             |  |                             | (\$ in thousands) |
|---|-----------------------------|--|-----------------------------|-------------------|
| <b>Fiscal Year Ended</b>  | <b>1% Decrease to 5.75%</b> | <b>Current Single Rate Assumption of 6.75%</b> | <b>1% Increase to 7.75%</b> |                   |
| 6/30/22   | \$410,261                   | \$377,888                                      | \$349,693                   |                   |
| 6/30/21   | \$435,328                   | \$400,457                                      | \$370,117                   |                   |

The actuarial assumptions used in the June 30, 2021 valuation to calculate the total OPEB liability as of June 30, 2022 were based on the results of an actuarial experience study for the period from July 1, 2015 to June 30, 2019.

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.

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 2022 and the geometric rates of return for each asset class:

**LONG-TERM EXPECTED RATE OF RETURN**

| <b>Asset Class</b>           | <b>Target Allocation</b> | <b>30-Year Return</b> |
|------------------------------|--------------------------|-----------------------|
| <b>Public Equity</b>         | <b>50.0%</b>             |                       |
| US Equity                    | 30.0%                    | 7.60%                 |
| Non-US Equity                | 20.0%                    | 7.90%                 |
| <b>Private Market Equity</b> | <b>20.0%</b>             |                       |
| Real Estate Equity           | 10.0%                    | 6.60%                 |
| Private Equity               | 10.0%                    | 8.85%                 |
| <b>Private Debt</b>          | <b>5.0%</b>              |                       |
| Private Debt                 | 5.0%                     | 7.25%                 |
| <b>Fixed Income</b>          | <b>25.0%</b>             |                       |
| Core US Fixed Income         | 25.0%                    | 3.60%                 |
| <b>Inflation</b>             |                          | 2.25%                 |
| <b>Total Fund</b>            | <b>100.0%</b>            |                       |



**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, 2022 is \$3,077.6 million and the annual covered payroll for the fiscal year ended June 30, 2021 was \$2,973.0 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 2022) |                             |        | Member Normal Share | (FY 2021) |                             |        |
|-----------------|---------------------|-----------|-----------------------------|--------|---------------------|-----------|-----------------------------|--------|
|                 |                     | State     | Employer Normal Share Local | Total  |                     | State     | Employer Normal Share Local | Total  |
| Employees       |                     |           |                             |        |                     |           |                             |        |
| State           | 7.00%               | 13.75%    |                             | 13.75% | 7.00%               | 10.88%    | —                           | 10.88% |
| Local           | 7.00%               |           | 13.75%                      | 13.75% | 7.00%               | —         | 10.88%                      | 10.88% |
| Teachers        | 7.00%               |           | 19.48%                      | 19.48% | 7.00%               | —         | 15.99%                      | 15.99% |
| Police Officers |                     |           |                             |        |                     |           |                             |        |
| State           | 11.55%              | 30.67%    |                             | 30.67% | 11.55%              | 24.77%    | —                           | 24.77% |
| Local           | 11.55%              |           | 30.67%                      | 30.67% | 11.55%              | —         | 24.77%                      | 24.77% |
| Firefighters    |                     |           |                             |        |                     |           |                             |        |
| State           | 11.80%              | 29.78%    |                             | 29.78% | 11.80%              | 26.43%    | —                           | 26.43% |
| Local           | 11.80%              |           | 29.78%                      | 29.78% | 11.80%              | —         | 26.43%                      | 26.43% |

**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:

- 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 2022 and 2021, 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 2022) |                             |       | Member Normal Share | (FY 2021) |                             |       |
|-----------------|---------------------|-----------|-----------------------------|-------|---------------------|-----------|-----------------------------|-------|
|                 |                     | State     | Employer Normal Share Local | Total |                     | State     | Employer Normal Share Local | Total |
| Employees       |                     |           |                             |       |                     |           |                             |       |
| State           |                     | 0.78%     |                             | 0.78% | —                   | 1.05%     | —                           | 1.05% |
| Local           |                     |           | 0.31%                       | 0.31% | —                   | —         | 0.29%                       | 0.29% |
| Teachers        |                     |           | 1.54%                       | 1.54% | —                   | —         | 1.81%                       | 1.81% |
| Police Officers |                     |           |                             |       |                     |           |                             |       |
| State           |                     | 3.21%     |                             | 3.21% | —                   | 3.66%     | —                           | 3.66% |
| Local           |                     |           | 3.21%                       | 3.21% | —                   | —         | 3.66%                       | 3.66% |
| Firefighters    |                     |           |                             |       |                     |           |                             |       |
| State           |                     | 3.21%     |                             | 3.21% | —                   | 3.66%     | —                           | 3.66% |
| Local           |                     |           | 3.21%                       | 3.21% | —                   | —         | 3.66%                       | 3.66% |

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 2022)<br>Employer Normal Share |                 |                     | Member Normal Share** | (FY 2021)<br>Employer Normal Share |                 |                     |
|--------------------------|-----------------------|------------------------------------|-----------------|---------------------|-----------------------|------------------------------------|-----------------|---------------------|
|                          |                       | Pension Plan*                      | OPEB Plan*      | Total Contributions |                       | Pension Plan*                      | OPEB Plan*      | Total Contributions |
| Employees                | \$ 96,780             | \$185,846                          | \$6,993         | \$289,619           | \$ 93,492             | \$142,882                          | \$ 8,360        | \$244,734           |
| Teachers                 | 87,833                | 240,248                            | 18,905          | 346,986             | 85,294                | 192,458                            | 21,782          | 299,534             |
| Police Officers          | 41,165                | 107,281                            | 11,237          | 159,683             | 40,005                | 83,897                             | 12,399          | 136,301             |
| Firefighters             | 18,204                | 45,708                             | 4,929           | 68,841              | 18,088                | 39,802                             | 5,514           | 63,404              |
| <b>Total Contributed</b> | <b>\$243,982</b>      | <b>\$579,083</b>                   | <b>\$42,064</b> | <b>\$865,129</b>    | <b>\$236,879</b>      | <b>\$459,039</b>                   | <b>\$48,055</b> | <b>\$743,973</b>    |

\*Includes contributions made by both State and local employers

\*\*Includes voluntary member contributions of \$3.2 million in FY 2022 and \$3.9 million in FY 2021.

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 2022)<br>Employer Normal Share |              |                     | Member Normal Share** | (FY 2021)<br>Employer Normal Share |              |                     |
|--------------------------|-----------------------|------------------------------------|--------------|---------------------|-----------------------|------------------------------------|--------------|---------------------|
|                          |                       | Pension Plan*                      | OPEB Plan*   | Total Contributions |                       | Pension Plan*                      | OPEB Plan*   | Total Contributions |
| Employees                | 7.08%                 | 13.59%                             | 0.51%        | 21.18%              | 7.19%                 | 10.98%                             | 0.64%        | 18.81%              |
| Teachers                 | 7.16%                 | 19.95%                             | 1.54%        | 28.29%              | 7.12%                 | 16.06%                             | 1.82%        | 25.00%              |
| Police Officers          | 12.23%                | 31.88%                             | 3.34%        | 47.45%              | 12.22%                | 25.63%                             | 3.79%        | 41.64%              |
| Firefighters             | 12.38%                | 31.09%                             | 3.35%        | 46.82%              | 12.35%                | 27.18%                             | 3.76%        | 43.29%              |
| <b>Total Contributed</b> | <b>7.93%</b>          | <b>18.82%</b>                      | <b>1.37%</b> | <b>28.11%</b>       | <b>7.97%</b>          | <b>15.44%</b>                      | <b>1.62%</b> | <b>25.02%</b>       |

\*Includes contributions made by both State and local employers

\*\*Includes voluntary member contributions of \$3.2 million in FY 2022 and \$3.9 million in FY 2021.

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 2022 was based on the June 30, 2019 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 \$9.8 million and \$8.6 million for June 30, 2022 and 2021, respectively, are included in the accompanying Combining Statements of Changes in Fiduciary Net Position.

Administrative expenses consist primarily of salaries and benefits for 77 full-time employees, the costs associated with operating and maintaining computer systems, and other administrative costs.

**NOTE 8 – LEASES**

NHRS is a lessee for a noncancelable lease of office space with lease terms through March 2036. There are no residual value guarantees included in the measurement of NHRS’s lease liability nor recognized as an expense for the year ended June 30, 2022. NHRS does not have any commitments that were incurred at the commencement of the lease. No termination penalties were incurred during the fiscal year.

Lease asset activity of NHRS was as follows:

| Leased Asset Class (Leasee)   | Balance June 30, 2021 | Additions    | Deletions | Balance June 30, 2022 |
|-------------------------------|-----------------------|--------------|-----------|-----------------------|
| Right-to-use assets           |                       |              |           |                       |
| Building                      | \$ 4,669,962          | \$ —         | \$ —      | \$ 4,669,962          |
| Less accumulated amortization |                       |              |           |                       |
| Building                      | —                     | (316,608)    | —         | (316,608)             |
| Net right-to-use              | \$ 4,669,962          | \$ (316,608) | \$ —      | \$ 4,353,354          |

The Entity recognized \$316,608 in amortization expense included in the Plan expenses on the Combining Statements of Changes in Fiduciary Net Position Pension and Other Postemployment Medical Plans.

The future principal and interest lease payments as of June 30, 2022, were as follows:

| Year Ending June 30 | Principal           | Interest          | Total               |
|---------------------|---------------------|-------------------|---------------------|
| 2023                | \$ 256,942          | \$ 56,746         | \$ 313,688          |
| 2024                | 260,354             | 53,554            | 313,688             |
| 2025                | 263,812             | 49,876            | 313,688             |
| 2026                | 276,288             | 46,362            | 322,650             |
| 2027                | 307,052             | 42,486            | 349,538             |
| 2028–2036           | 3,051,940           | 185,763           | 3,237,703           |
|                     | <b>\$ 4,416,388</b> | <b>\$ 434,567</b> | <b>\$ 4,850,955</b> |

NHRS evaluated the right-to-use assets for impairment and determined there was no impairment for the year ended June 30, 2022.

#### **NOTE 9 – 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 financial status.

#### **NOTE 10 – 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, 2022 is \$3,296,797.

**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, 2022 is \$7,411,560.

## REQUIRED SUPPLEMENTARY INFORMATION

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

(\$ in thousands)

| Fiscal Year Ended   | June 30, 2022        | June 30, 2021       | June 30, 2020       | June 30, 2019       |
|---|----------------------|---------------------|---------------------|---------------------|
| <b>Total Pension Liability</b>  |                      |                     |                     |                     |
| Service Cost  | \$ 321,589           | \$ 319,296          | \$ 310,678          | \$ 275,380          |
| Interest on the Total Pension Liability   | 1,056,222            | 1,026,953           | 994,537             | 970,599             |
| Benefit Changes   | 10,793               | —                   | 69,355              | —                   |
| Difference Between Expected and Actual<br>Experience of the Total Pension Liability | 37,807               | ( 5,872)            | 198,104             | ( 111,250)          |
| Assumption Changes  | —                    | —                   | 778,434             | —                   |
| Benefit Payments  | ( 913,994)           | ( 858,210)          | ( 816,708)          | ( 780,907)          |
| Refunds   | ( 23,727)            | ( 19,884)           | ( 23,312)           | ( 23,464)           |
| Net Changes in Total Pension Liability  | 488,690              | 462,283             | 1,511,088           | 330,358             |
| Total Pension Liability — Beginning   | 15,955,798           | 15,493,515          | 13,982,427          | 13,652,069          |
| <b>Total Pension Liability — Ending</b>   | <b>\$ 16,444,488</b> | <b>\$15,955,798</b> | <b>\$15,493,515</b> | <b>\$13,982,427</b> |
| <b>Plan Fiduciary Net Position</b>  |                      |                     |                     |                     |
| Contributions — Employer  | \$ 579,028           | \$ 459,277          | \$ 445,021          | \$ 434,407          |
| Contributions — Member  | 243,981              | 236,879             | 229,725             | 223,995             |
| Pension Plan Net Investment Income  | ( 690,177)           | 2,617,661           | 101,039             | 488,270             |
| Benefit Payments  | ( 913,994)           | ( 858,210)          | ( 816,708)          | ( 780,907)          |
| Refunds   | ( 23,727)            | ( 19,884)           | 23,312              | ( 23,464)           |
| Pension Plan Administrative Expense   | ( 9,523)             | ( 8,417)            | ( 8,281)            | ( 7,436)            |
| Other Custodial, Professional and<br>Non-Investment Expenses                        | ( 1,110)             | ( 791)              | ( 893)              | ( 959)              |
| Net Change in Plan Fiduciary Net Position   | ( 815,522)           | 2,426,515           | ( 73,409)           | 333,906             |
| Plan Fiduciary Net Position — Beginning   | 11,523,879           | 9,097,364           | 9,170,773           | 8,836,867           |
| <b>Plan Fiduciary Net Position — Ending</b>   | <b>\$ 10,708,357</b> | <b>\$11,523,879</b> | <b>\$ 9,097,364</b> | <b>\$ 9,170,773</b> |
| <b>Net Pension Liability</b>  | <b>\$ 5,736,131</b>  | <b>\$ 4,431,919</b> | <b>\$ 6,396,151</b> | <b>\$ 4,811,654</b> |
| Plan Fiduciary Net Position as a Percentage<br>of Total Pension Liability           | 65.1%                | 72.2%               | 58.7%               | 65.6%               |
| Covered Payroll   | \$ 3,077,584         | \$2,972,969         | \$ 2,894,708        | \$ 2,825,006        |
| Net Pension Liability as a Percentage<br>of Covered Payroll                         | 186.4%               | 149.1%              | 221.0%              | 170.3%              |

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, 2018       | June 30, 2017       | June 30, 2016       | June 30, 2015       | June 30, 2014       |
|---------------------|---------------------|---------------------|---------------------|---------------------|
| \$ 269,751          | \$ 262,626          | \$ 266,379          | \$ 243,965          | \$ 245,828          |
| 936,988             | 906,201             | 875,247             | 847,646             | 815,214             |
| —                   | —                   | —                   | —                   | —                   |
| 39,112              | ( 19,047)           | 18,404              | 106,715)            | —                   |
| —                   | —                   | 815,023             | —                   | —                   |
| ( 741,753)          | ( 706,304)          | ( 670,360)          | ( 631,312)          | ( 599,476)          |
| ( 24,010)           | ( 23,408)           | ( 24,233)           | ( 26,345)           | ( 26,120)           |
| 480,088             | 420,068             | 1,280,460           | 327,239             | 435,446             |
| 13,171,981          | 12,751,913          | 11,471,453          | 11,144,214          | 10,708,768          |
| <b>\$13,652,069</b> | <b>\$13,171,981</b> | <b>\$12,751,913</b> | <b>\$11,471,453</b> | <b>\$11,144,214</b> |
| \$ 422,659          | \$ 366,653          | \$ 357,482          | \$ 332,294          | \$ 328,444          |
| 217,572             | 213,061             | 207,949             | 204,063             | 199,033             |
| 717,090             | 978,594             | 61,878              | 249,806             | 1,092,586           |
| ( 741,753)          | ( 706,304)          | ( 670,360)          | ( 631,312)          | ( 599,476)          |
| ( 24,010)           | ( 23,408)           | ( 24,233)           | ( 26,345)           | ( 26,120)           |
| ( 7,767)            | ( 7,671)            | ( 7,061)            | ( 7,582)            | ( 7,377)            |
| ( 912)              | ( 1,255)            | ( 1,263)            | ( 1,626)            | ( 1,446)            |
| 582,879             | 819,670             | ( 75,608)           | 119,298             | 985,644             |
| 8,253,988           | 7,434,318           | 7,509,926           | 7,390,628           | 6,404,984           |
| <b>\$ 8,836,867</b> | <b>\$8,253,988</b>  | <b>\$ 7,434,318</b> | <b>\$ 7,509,926</b> | <b>\$ 7,390,628</b> |
| <b>\$ 4,815,202</b> | <b>\$4,917,993</b>  | <b>\$ 5,317,595</b> | <b>\$ 3,961,527</b> | <b>\$ 3,753,586</b> |
| 64.7%               | 62.7%               | 58.3%               | 65.5%               | 66.3%               |
| \$ 2,752,235        | \$2,667,612         | \$ 2,601,404        | \$ 2,575,031        | \$ 2,507,899        |
| 175.0%              | 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 |
|-------------------|-------------------------------------|---------------------|----------------------------------|-----------------|---|
| 6/30/2022         | \$579,083                           | \$579,083           | —                                | \$3,077,584     | 18.8%   |
| 6/30/2021         | \$459,277                           | \$459,277           | —                                | \$2,972,969     | 15.5%   |
| 6/30/2020         | \$444,717                           | \$444,717           | —                                | \$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%   |

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

(\$ in thousands)

| Fiscal Year Ended   | June 30<br>2022   | June 30<br>2021   | June 30<br>2020   | June 30,<br>2019  | June 30,<br>2018  | June 30,<br>2017  | June 30,<br>2016  |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Total OPEB Liability  |                   |                   |                   |                   |                   |                   |                   |
| Service Cost  | \$ 591            | \$ 731            | \$ 740            | \$ 857            | \$ 984            | \$ 1,099          | \$ 1,218          |
| Interest on the Total OPEB Liability  | 28,933            | 30,512            | 32,785            | 34,197            | 34,247            | 35,235            | 36,542            |
| Benefit Changes   | —                 | —                 | —                 | —                 | —                 | —                 | —                 |
| Difference between expected and actual experience of the Total OPEB Liability | ( 13,087)         | ( 9,912)          | ( 10,219)         | ( 7,156)          | 12,667            | —                 | ( 4,538)          |
| Assumption Changes  | —                 | —                 | 22,676            | —                 | —                 | —                 | —                 |
| Benefit Payments  | ( 43,809)         | ( 45,499)         | ( 46,816)         | ( 47,798)         | ( 49,251)         | ( 50,560)         | ( 51,805)         |
| Refunds   | —                 | —                 | —                 | —                 | —                 | —                 | —                 |
| Net Changes in Total OPEB Liability   | ( 27,372)         | ( 24,168)         | ( 884)            | ( 19,900)         | ( 1,353)          | ( 14,226)         | ( 18,583)         |
| Total OPEB Liability — Beginning  | 450,252           | 474,420           | 475,254           | 495,154           | 496,507           | 510,733           | 529,316           |
| <b>Total OPEB Liability — Ending</b>  | <b>\$ 422,880</b> | <b>\$ 450,252</b> | <b>\$ 474,420</b> | <b>\$ 475,254</b> | <b>\$ 495,154</b> | <b>\$ 496,507</b> | <b>\$ 510,733</b> |
| Plan Fiduciary Net Position   |                   |                   |                   |                   |                   |                   |                   |
| Contributions — Employer  | \$ 42,064         | \$ 48,055         | \$ 46,460         | \$ 45,509         | \$ 44,194         | \$ 59,197         | \$ 58,174         |
| Contributions — Member  | —                 | —                 | —                 | —                 | —                 | —                 | —                 |
| OPEB Plan Net Investment Income   | ( 2,820)          | 10,703            | 397               | 1,981             | 3,129             | 4,046             | 149               |
| Benefit Payments  | ( 43,809)         | ( 45,499)         | ( 46,816)         | ( 47,798)         | ( 49,251)         | ( 50,560)         | ( 51,805)         |
| Refunds   | —                 | —                 | —                 | —                 | —                 | —                 | —                 |
| OPEB Plan Administrative Expense  | ( 234)            | ( 172)            | ( 169)            | ( 152)            | ( 33)             | ( 32)             | ( 17)             |
| Other custodial, professional and non-investment expenses                     | ( 4)              | ( 3)              | ( 3)              | ( 6)              | ( 4)              | ( 5)              | ( 3)              |
| Net Change in Plan Fiduciary Net Position                                     | ( 4,803)          | 13,084            | ( 131)            | ( 466)            | ( 1,965)          | 12,646            | 6,498             |
| Plan Fiduciary Net Position — Beginning                                       | 49,795            | 36,711            | 36,842            | 37,308            | 39,273            | 26,627            | 20,129            |
| <b>Plan Fiduciary Net Position — Ending</b>                                   | <b>\$ 44,992</b>  | <b>\$ 49,795</b>  | <b>\$ 36,711</b>  | <b>\$ 36,842</b>  | <b>\$ 37,308</b>  | <b>\$ 39,273</b>  | <b>\$ 26,627</b>  |
| Net OPEB Liability  | \$ 377,888        | \$ 400,457        | \$ 437,709        | \$ 438,411        | \$ 457,846        | \$ 457,234        | \$ 484,106        |
| Plan Fiduciary Net Position as a Percentage of Total OPEB Liability           | 10.64%            | 11.06%            | 7.8%              | 7.8%              | 7.5%              | 7.9%              | 5.2%              |
| Covered Payroll*  | \$3,077,584       | \$ 2,972,969      | \$ 2,894,708      | \$ 2,825,006      | \$ 2,752,235      | \$ 2,667,612      | \$ 2,601,404      |
| Net OPEB Liability as a Percentage of Covered Payroll                         | 12.28%            | 13.47%            | 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 |
|-------------------|-------------------------------------|---------------------|----------------------------------|-----------------|---|
| 6/30/22           | \$42,064                            | \$42,064            | —                                | \$3,077,584     | 1.4%  |
| 6/30/21           | \$48,055                            | \$48,055            | —                                | \$2,972,969     | 1.6%  |
| 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%  |

**SCHEDULE OF INVESTMENT RETURNS**

| Fiscal Year Ended | Annual Money Weighted Rate of Return — Net of Investment Expenses |
|-------------------|---|
| 6/30/2022         | (5.8)%  |
| 6/30/2021         | 29.7%   |
| 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 2022 were determined by the System’s actuary based on the June 30, 2019 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. Significant actuarial assumptions and methods used to determine the FY 2022 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** Multiple periods of 18–20 years beginning July 1, 2019 (30 years beginning July 1, 2009)
- **Asset Valuation Method** Five-year smoothed market, 20% corridor
- **Payroll Growth** 2.75% per year (2.25% for Teachers)
- **Price Inflation** 2.0%
- **Salary Increase** 5.4% average, including price inflation
- **Investment Rate of Return** 6.75%, net of pension plan investment expenses, including inflation
- **Mortality** Pub-2010 Healthy Retiree Mortality Tables with credibility adjustments for each member classification (Police and Fire combined) and projected fully generational mortality improvements using Scale MP-2019.

**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** 2.75% per year (2.25% for Teachers)
- **Price Inflation** 2.0%
- **Salary Increase** 5.4% average, including price inflation
- **Investment Rate of Return** 6.75% per year, net of OPEB plan investment expense, including inflation for determining solvency contributions
- **Funding Discount Rate** 2.75% per year
- **Mortality** Pub-2010 Healthy Retiree Mortality Tables with credibility adjustments for each member classification (Police and Fire combined) and projected fully generational mortality improvements using Scale MP-2019.

**CHANGES OF BENEFIT TERMS****2022:**

Ch 203 laws of 2022 (HB1535), grants a one-time payment of \$500 to members who retired on or before July 1, 2017, or any beneficiaries of such member who is receiving a survivorship pension benefit who has an annual retirement allowance of no more than \$30,000 on June 30, 2022. The one-time payment will be made during state fiscal year 2023 from the General Fund.

**2020:**

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.

**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/](http://www.nhrs.org/).

**2016:**

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



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

(in thousands)

|   | YEAR ENDED JUNE 30 |                  |
|---|--------------------|------------------|
|   | 2022               | 2021             |
| <b>INVESTMENT ACTIVITY FEES:</b>        |                    |                  |
| Equity Investments:                     |                    |                  |
| Domestic                                | \$ 10,726          | \$ 9,701         |
| Non-U.S.                                | 10,810             | 10,153           |
| Fixed Income Investments                | 6,380              | 6,118            |
| Alternative Investments*                | 13,021             | 13,457           |
| Real Estate                             | 12,721             | 11,793           |
| Custodial Fees                          | 707                | 661              |
| Investment Advisor Fees                 | 650                | 700              |
| Investment Professional Fees            | 410                | 438              |
| Investment Staff Administrative Expense | 731                | 688              |
| <b>TOTAL INVESTMENT ACTIVITY FEES</b>   | <b>\$ 56,156</b>   | <b>\$ 53,709</b> |

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

**INTEREST INCOME**

(in thousands)

|                              | YEAR ENDED JUNE 30 |                  |
|------------------------------|--------------------|------------------|
|                              | 2022               | 2021             |
| Fixed Income Investments     | \$ 38,194          | \$ 41,111        |
| Cash and Cash Equivalents    | 492                | 185              |
| <b>TOTAL INTEREST INCOME</b> | <b>\$ 38,686</b>   | <b>\$ 41,296</b> |

**DIVIDEND INCOME**

(in thousands)

|                              | YEAR ENDED JUNE 30 |                  |
|------------------------------|--------------------|------------------|
|                              | 2022               | 2021             |
| Equity Investments:          |                    |                  |
| Domestic                     | \$ 50,324          | \$ 45,064        |
| Non-U.S.                     | 37,850             | 27,853           |
| <b>TOTAL DIVIDEND INCOME</b> | <b>\$ 88,174</b>   | <b>\$ 72,917</b> |

| <b>CONTRIBUTIONS</b>                      | (in thousands)            |                   |
|---|---------------------------|-------------------|
|   | <b>YEAR ENDED JUNE 30</b> |                   |
|   | <b>2022</b>               | <b>2021</b>       |
| <b>CONTRIBUTIONS – PENSION PLAN</b>       |                           |                   |
| EMPLOYER CONTRIBUTIONS:                   |                           |                   |
| Employees                                 | \$ 185,798                | \$ 143,009        |
| Teachers                                  | 240,234                   | 192,530           |
| Police Officers                           | 107,286                   | 83,934            |
| Firefighters                              | 45,710                    | 39,805            |
| <b>TOTAL EMPLOYER CONTRIBUTIONS</b>       | <b>\$ 579,028</b>         | <b>\$ 459,278</b> |
| PLAN MEMBER CONTRIBUTIONS:                |                           |                   |
| Employees                                 | \$ 96,780                 | \$ 93,492         |
| Teachers                                  | 87,832                    | 85,294            |
| Police Officers                           | 41,165                    | 40,005            |
| Firefighters                              | 18,205                    | 18,088            |
| <b>TOTAL PLAN MEMBER CONTRIBUTIONS</b>    | <b>\$ 243,982</b>         | <b>\$ 236,879</b> |
| <b>TOTAL CONTRIBUTIONS – PENSION PLAN</b> | <b>\$ 823,010</b>         | <b>\$ 696,157</b> |
| <b>CONTRIBUTIONS – OPEB PLAN</b>          |                           |                   |
| EMPLOYER NORMAL:                          |                           |                   |
| OPEB Contributions                        | \$ 42,064                 | \$ 48,054         |
| <b>TOTAL CONTRIBUTIONS – OPEB PLAN</b>    | <b>\$ 42,064</b>          | <b>\$ 48,054</b>  |
| <b>TOTAL CONTRIBUTIONS</b>                | <b>\$ 865,074</b>         | <b>\$ 744,211</b> |

| <b>BENEFITS</b>   | (in thousands)            |                   |
|---|---------------------------|-------------------|
|   | <b>YEAR ENDED JUNE 30</b> |                   |
|   | <b>2022</b>               | <b>2021</b>       |
| PENSION BENEFITS AND ADDITIONAL ALLOWANCES:             |                           |                   |
| Employees   | \$ 307,115                | \$ 287,578        |
| Teachers  | 353,325                   | 334,931           |
| Police Officers   | 173,943                   | 161,315           |
| Firefighters  | 79,611                    | 74,387            |
| <b>TOTAL PENSION BENEFITS AND ADDITIONAL ALLOWANCES</b> | <b>\$ 913,994</b>         | <b>\$ 858,211</b> |
| POSTEMPLOYMENT MEDICAL BENEFITS:                        |                           |                   |
| Group II Police and Fire                                | \$ 16,569                 | \$ 16,665         |
| Group I Teachers  | 18,037                    | 18,645            |
| Group I Political Subdivision Employees                 | 4,272                     | 4,496             |
| Group I State Employees                                 | 4,931                     | 5,693             |
| <b>TOTAL POSTEMPLOYMENT MEDICAL BENEFITS</b>            | <b>\$ 43,809</b>          | <b>\$ 45,499</b>  |
| <b>TOTAL BENEFITS</b>                                   | <b>\$ 957,803</b>         | <b>\$ 903,710</b> |

| <b>REFUNDS OF CONTRIBUTIONS</b>       | (in thousands)            |                  |
|---------------------------------------|---------------------------|------------------|
|                                       | <b>YEAR ENDED JUNE 30</b> |                  |
|                                       | <b>2022</b>               | <b>2021</b>      |
| Employees                             | \$ 12,689                 | \$ 11,365        |
| Teachers                              | 4,625                     | 4,359            |
| Police Officers                       | 5,605                     | 3,374            |
| Firefighters                          | 808                       | 786              |
| <b>TOTAL REFUNDS OF CONTRIBUTIONS</b> | <b>\$ 23,727</b>          | <b>\$ 19,884</b> |

**ADMINISTRATIVE EXPENSE FOR THE YEARS ENDED  
JUNE 30, 2021 AND 2020**

(in thousands)

|   | <b>2022<br/>EXPENSE</b> | <b>2022<br/>BUDGET*</b> | <b>OVER<br/>(UNDER)<br/>BUDGET</b> | <b>2021<br/>EXPENSE</b> | <b>2021<br/>BUDGET*</b> | <b>OVER<br/>(UNDER)<br/>BUDGET</b> |
|---|-------------------------|-------------------------|------------------------------------|-------------------------|-------------------------|------------------------------------|
| Salaries and Wages                      | \$ 5,033                | \$ 4,666                | \$ 367                             | \$ 4,249                | \$ 4,249                | \$ —                               |
| Fringe Benefits                         | 2,562                   | 2,780                   | (218)                              | 2,276                   | 2,246                   | 30                                 |
| Supplies, Utilities and Postage         | 253                     | 253                     | —                                  | 261                     | 242                     | 19                                 |
| Organizational Dues                     | 18                      | 21                      | (3)                                | 16                      | 15                      | 1                                  |
| Equipment                               | 6                       | 5                       | 1                                  | 7                       | 7                       | —                                  |
| Travel—Staff                            | 5                       | 5                       | —                                  | 8                       | 12                      | (4)                                |
| Board Expenses                          | 9                       | 9                       | —                                  | 14                      | 14                      | —                                  |
| Employee Training                       | 36                      | 46                      | (10)                               | 28                      | 28                      | —                                  |
| State Services                          | 26                      | 26                      | —                                  | 19                      | 19                      | —                                  |
| Office Rents and Expenses               | 190                     | 508                     | (318)                              | 500                     | 500                     | —                                  |
| Computer Support and System Development | 1,166                   | 1,746                   | (580)                              | 810                     | 2,485                   | (1,675)                            |
| Consulting                              | 454                     | 215                     | 239                                | 262                     | 145                     | 117                                |
| Workers Compensation                    | —                       | —                       | —                                  | —                       | —                       | —                                  |
| Unemployment Compensation               | —                       | —                       | —                                  | 1                       | 1                       | —                                  |
| <b>TOTAL</b>                            | <b>\$ 9,758</b>         | <b>\$10,280</b>         | <b>\$ (522)</b>                    | <b>\$ 8,451</b>         | <b>\$ 9,963</b>         | <b>\$(1,513)</b>                   |

\*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)

|                                | <b>YEAR ENDED JUNE 30</b> |               |
|--------------------------------|---------------------------|---------------|
|                                | <b>2022</b>               | <b>2021</b>   |
| Legal Fees                     | \$ 98                     | \$ 121        |
| Actuarial Fees                 | 161                       | 168           |
| Audit Fees                     | 260                       | 260           |
| <b>TOTAL PROFESSIONAL FEES</b> | <b>\$ 519</b>             | <b>\$ 549</b> |

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NEW HAMPSHIRE RETIREMENT SYSTEM

# INVESTMENT SECTION

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**INVESTMENT  
CONSULTANT'S  
LETTER**


Callan LLC  
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Summit, NJ 07901

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Fax 908.277.1503

[www.callan.com](http://www.callan.com)

October 31, 2022

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

Dear NHRS Fiduciaries:

Callan LLC (Callan) is pleased to provide an overview of the New Hampshire Retirement System (NHRS) investment program for the fiscal year ended June 30, 2022. The capital markets experienced heightened levels of volatility over fiscal year 2022 due to a variety of factors contributing to systemic risk, including the aftermath of the COVID-19 pandemic, which contributed to supply chain inefficiencies, a significant dislocation between supply/demand dynamics, and the potential for weaker economic fundamentals. In addition, the invasion of Ukraine exacerbated several risk factors impacting food prices, energy prices, and contributed further to supply chain dislocations. Historic levels of inflation prompted aggressive central bank intervention via monetary policy in an effort to contain inflationary pressures. These hawkish monetary measures resulted in interest rate increases and the potential for additional tightening cycles over the short-term. Volatility persisted in this environment with broad global stock and bond indices falling, though commodities and other alternatives asset classes fared relatively better. Heightened inflation levels spurred the Fed to raise the Federal Funds rate by 150 bps over the fiscal year. The 75 bps increase that was implemented in May of 2022 represented the Fed's largest hike since 1994. Despite the negative momentum experienced in the capital markets, the overall portfolio (the "Fund") benefited from its strategic asset allocation, particularly within alternative assets. From a structural standpoint, overall, the active managers represented in the domestic equity portfolio (small/mid-capitalization managers) also helped protect the Fund in a challenging market environment.

NHRS follows an investment strategy designed to meet its funding requirements over the long-term. Assets are allocated efficiently to ensure that beneficiaries will receive the benefits they were promised. The Fund is managed on a total return basis, while recognizing the importance of capital preservation and prudent risk management. Additionally, the Fund is administered in accordance with sound fiduciary standards and industry best practices. The Fund's strategic asset allocation and related objectives, parameters and specific delegation of responsibilities are explicitly defined in the Investment Policy Statement. The Independent Investment Committee (IIC) manages the investment program pursuant to the investment policy, develops asset class guidelines, monitors and evaluates performance, and makes decisions regarding the retention or termination of asset managers. The investment manual includes all investment policies and asset class guidelines and may be obtained from the NHRS website at [www.nhrs.org](http://www.nhrs.org). The following pages report on the performance and attributes of the investment program for fiscal year 2022.

### **MARKET REVIEW FOR THE YEAR ENDED JUNE 30, 2022**

The market volatility experienced over the fiscal year reflected fluctuations in risk sentiment amid an array of systemic risk factors, including inflation, the implications of the war between Russia and Ukraine, as well as other tensions around the world, and the potential for weaker economic fundamentals going forward. Risk assets, particularly in the U.S., rallied over the second quarter of the fiscal year following a relatively flat first quarter.

Conversely, the third and fourth quarters of the fiscal year were marked by negative geopolitical events and broadly negative market returns. U.S. GDP fell 1.6% and 0.9% over the third and fourth quarters of the fiscal year, respectively, following GDP readings of 2.3% and 6.9% over the first and second quarters of the fiscal year. The primary culprits of third and fourth quarter GDP results were seen as inflation and the Fed's weapon of choice to fight it: tightening monetary policy. Price gains have been broad-based and global in nature and have been amplified by the invasion of Ukraine. Food and energy prices have risen sharply, and supply chain issues continued to impact the flow of goods around the world, adding further pressure to prices in some sectors. U.S. equities outperformed developed non-U.S. equities over the fiscal year. The S&P 500 Index fell by 10.6% over the fiscal year while the MSCI EAFE Index fell 17.8%. Emerging markets equities, as measured by the MSCI Emerging Markets Index, returned -25.3%, underperforming both U.S. and non-U.S. developed markets equities. Fixed income markets were also challenged, as concerns over future inflation drove the 10-year U.S. Treasury yield to its highest intra-quarter level since 2011 in June (3.49%), while the Bloomberg U.S. Aggregate

# Callan

Bond Index returned -10.3% over the fiscal year. It is uncommon for stocks and bonds to go down at the same time. This has only happened over two annual periods over the last 100 years.

## NHRS INVESTMENT PORTFOLIO REVIEW

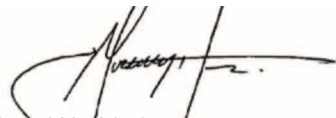
For the fiscal year ended June 30, 2022, the NHRS Total Fund returned -6.1%, net of investment management fees (or “net”), and outperformed the Total Fund Benchmark return of -9.3%. The Fund posted a return of -5.6%, gross of investment management fees (or “gross”), ranking in the 34th percentile relative to peers in Callan’s Large Defined Benefit Public Fund Universe, which consisted of 111 constituents as of June 30, 2022. The Fund’s success over the fiscal year was primarily attributable to strong relative performance from the alternative assets (private equity and private debt) and real estate components of the portfolio. An underweight to international equities and fixed income, coupled with strong performance from most of the active managers in the Fund’s small- and mid-cap composites also contributed to results. These investments helped protect value relative to the Total Fund Benchmark in a difficult environment in the global capital markets. For the trailing three year period, the Fund returned 7.1% (net), ranking in the 35th percentile of its peers (peer group rankings are measured gross of investment management fees). For the trailing five year period, the Fund returned 7.2% (net), ranking near the top third of the peer group (36th percentile). For the trailing ten year period, the Fund returned 8.5% (net), ranking in the 18th percentile of its peers, and for the trailing twenty-five year period, the Fund returned 6.9% (net), exceeding the current assumed rate of return of 6.75% and ranking in the 39th percentile of its peers.

During fiscal year 2022, the IIC engaged in the following activities pertaining to strategic and implementation matters impacting the Fund:

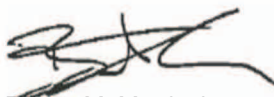
- **Asset Allocation:** Reevaluated the Fund’s strategic asset allocation, with an emphasis on understanding the impact of increasing exposure to alternatives given liquidity concerns;
- **Manager Structure:** Reevaluated the Fund’s manager structure of the marketable assets portfolio to review the implications of maintaining a strategic tilt within small/mid-capitalization stocks relative to the Russell 3000 Index;
- **Manager Search Activity:** Conducted a search for an international small cap equity mandate and hired Wellington’s International Small Cap Research strategy;
- **Alternative Assets Portfolio Pacing and Implementation:** Continued to implement the approved allocations within the Alternative Assets portfolio; and
- **Alternative Assets Benchmark Evaluation:** Updated the alternatives investment benchmark after careful analysis and evaluation. In this process, the alternatives benchmark was updated to reflect the following: 66.7% Russell 3000 Index + 2%, lagged 1 quarter, and 33.3% (50% S&P LSTA Leveraged Loan 100 Index + 50% Bloomberg High Yield Index) + 1%, lagged 1 quarter, as of 7/1/2022.

Callan LLC provides NHRS with strategic planning, implementation, performance monitoring services, and on- going research and education on a variety of relevant topics for institutional investors. The investment performance analysis produced by Callan has been developed using performance evaluation methodologies that are consistent with industry best practices. The performance results presented in this letter are calculated using a time-weighted returns and are reported both net of investment management fees, as well as gross of fees.

Sincerely,



Angel Haddad  
Senior Vice President



Britton M. Murdoch  
Vice President

**INVESTMENT  
REPORTS**

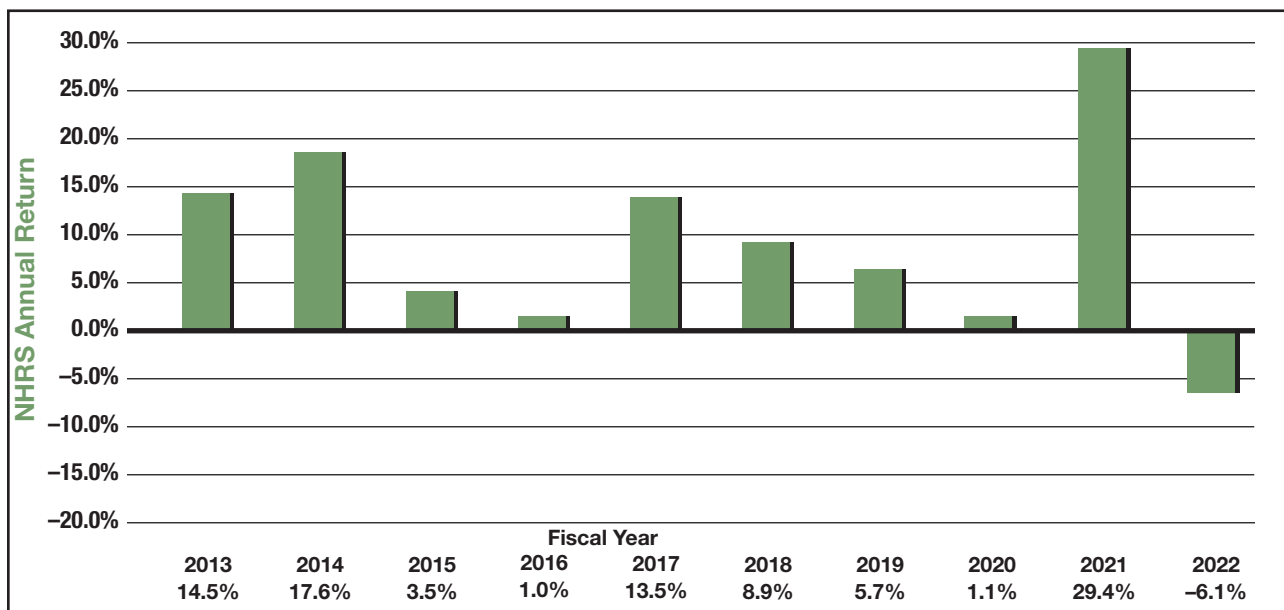
**ANNUALIZED INVESTMENT RETURNS—ACTUAL VERSUS INDICES**

|  | Current Year<br>2022 | 3 Year | Annualized<br>5 Year | 10 Year |
|--|----------------------|--------|----------------------|---------|
| Total NHRS Fund                          | -6.1%                | 7.1%   | 7.2%                 | 8.5%    |
| Total Fund Custom Index*                 | -9.3                 | 5.7    | 6.5                  | 8.2     |
| Domestic Equity                          | -13.5                | 8.5    | 9.2                  | 11.7    |
| Total Domestic Equity Blended Benchmark* | -13.9                | 9.2    | 10.5                 | 12.7    |
| Non-U.S. Equity                          | -21.2                | 0.0    | 1.9                  | 4.5     |
| Total Non-U.S. Equity Blended Benchmark* | -19.4                | 1.4    | 2.5                  | 4.8     |
| Fixed Income                             | -11.0                | 0.1    | 1.4                  | 2.4     |
| Total Fixed Income Blended Benchmark*    | -10.9                | -0.9   | 0.9                  | 1.8     |
| Real Estate                              | 29.3                 | 15.8   | 12.9                 | 13.0    |
| Total Real Estate Blended Benchmark*     | 28.3                 | 11.7   | 9.6                  | 10.1    |
| Alternative Investments                  | 8.9                  | 15.1   | 12.6                 | 10.3    |
| Total Alternative Investments Benchmark* | -6.1                 | 9.9    | 9.8                  | 12.8    |
| Cash Equivalents                         | 0.2                  | 0.7    | 1.1                  | 0.7     |
| 90 Day T-Bills                           | 0.2                  | 0.6    | 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**

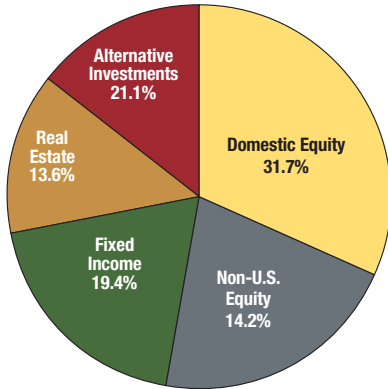




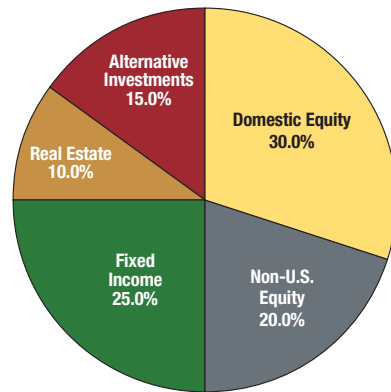
**ACTUAL ASSET ALLOCATION VERSUS TARGET ASSET ALLOCATION**

|                         | Actual %      | As of June 30, 2022 |                |
|-------------------------|---------------|---------------------|----------------|
|                         |               | Target %            | Target Range % |
| Domestic Equity         | 31.7%         | 30.0%               | 20 – 40        |
| Non-U.S. Equity         | 14.2%         | 20.0                | 15 – 25        |
| Fixed Income            | 19.4%         | 25.0                | 20 – 30        |
| Real Estate             | 13.6%         | 10.0                | 5 – 20         |
| Alternative Investments | 21.1%         | 15.0                | 5 – 25         |
| <b>TOTAL FUND</b>       | <b>100.0%</b> | <b>100.0%</b>       |                |

**Actual Asset Allocation as of June 30, 2022**



**Target Asset Allocation as of June 30, 2022**



**TEN LARGEST STOCK HOLDINGS BY FAIR VALUE\***

(in thousands)

|    | Shares  | Stock                   | June 30, 2022<br>Fair Value |
|----|---------|-------------------------|-----------------------------|
| 1  | 501,414 | Microsoft Corp          | \$128,778                   |
| 2  | 879,480 | Apple Inc.              | 120,243                     |
| 3  | 576,015 | Amazon.com Inc.         | 61,179                      |
| 4  | 22,874  | Alphabet Inc. – CL C    | 50,036                      |
| 5  | 20,467  | Alphabet Inc. – CL A    | 44,603                      |
| 6  | 211,276 | Johnson & Johnson       | 37,504                      |
| 7  | 47,950  | Tesla Inc.              | 32,290                      |
| 8  | 103,376 | Berkshire Hathaway Inc. | 28,224                      |
| 9  | 88,147  | Mastercard Inc.         | 27,807                      |
| 10 | 53,755  | UnitedHealth Group Inc. | 27,610                      |

**TEN LARGEST FIXED INCOME HOLDINGS BY FAIR VALUE\***

(in thousands)

|    | Par**          | Security                            | June 30, 2022<br>Fair Value |
|----|----------------|-------------------------------------|-----------------------------|
| 1  | 53,689,000     | U.S. Treasury Note – 0.625%, 2026   | \$48,689                    |
| 2  | 42,430,000     | U.S. Treasury Note – Var Rate, 2024 | 42,397                      |
| 3  | 28,875,000     | U.S. Treasury Note – Var Rate, 2023 | 28,922                      |
| 4  | 28,197,000     | U.S. Treasury Note – 0.375%, 2026   | 25,639                      |
| 5  | 29,935,000     | U.S. Treasury Bond – 1.125%, 2040   | 20,681                      |
| 6  | 15,954,000     | U.S. Treasury Note – 0.375%, 2024   | 15,230                      |
| 7  | 14,507,000     | U.S. Treasury Bond – 3.000%, 2048   | 13,707                      |
| 8  | 16,085,000     | U.S. Treasury Bond – 2.250%, 2052   | 13,237                      |
| 9  | 17,070,000     | U.S. Treasury Bond – 1.125%, 2040   | 11,882                      |
| 10 | 17,030,000,000 | Korea Treasury Bond – 2.000%, 2031  | 11,430                      |

\*\*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**

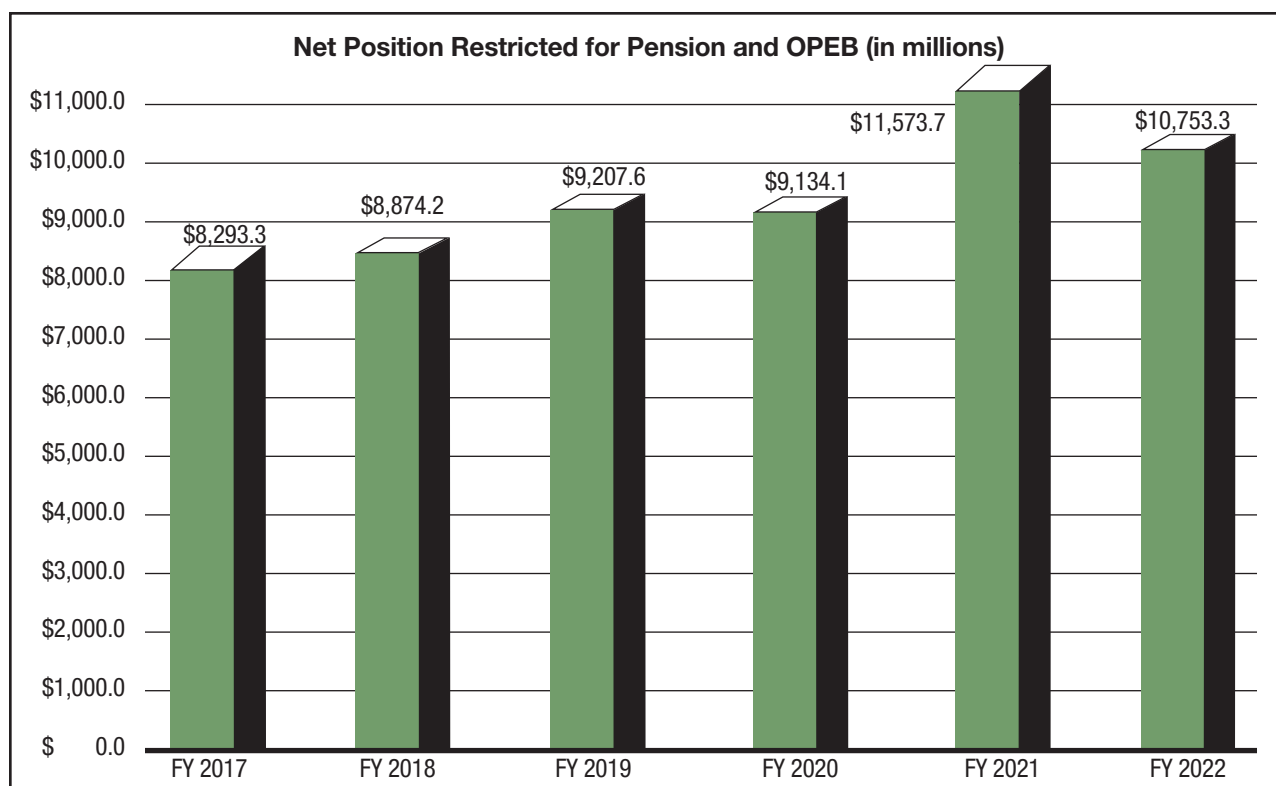
|   | YEAR ENDED JUNE 30, 2022                  |                        |                      |
|---|---|------------------------|----------------------|
|   | Assets Under Management<br>(in thousands) | Fees<br>(in thousands) | Average Basis Points |
| <b>INVESTMENT MANAGEMENT FEES</b>                   |   |                        |                      |
| Equity Portfolios:                                  |   |                        |                      |
| Domestic  | \$ 3,333,078                              | \$ 10,726              | 32                   |
| Non-U.S.  | 1,491,582                                 | 10,810                 | 72                   |
| Fixed Income Portfolios                             | 2,042,616                                 | 6,380                  | 31                   |
| Alternative Investments*                            | 2,212,722                                 | 13,021                 | 59                   |
| Real Estate   | 1,431,776                                 | 12,721                 | 89                   |
| Cash and Cash Equivalents                           | 139,327                                   | —                      | —                    |
| <b>TOTAL INVESTMENT MANAGEMENT FEES</b>             | <b>\$10,651,101</b>                       | <b>\$ 53,658</b>       | <b>50</b>            |
| <b>INVESTMENT SERVICE FEES</b>                      |   |                        |                      |
| Custodial Fees                                      | \$10,651,101                              | \$ 707                 | 1                    |
| Investment Advisor Fees — External                  | 10,651,101                                | 650                    | 1                    |
| Investment Professional Fees                        | 10,651,101                                | 410                    | 1                    |
| Investment Administrative Expenses — Internal       | 10,651,101                                | 731                    | 1                    |
| <b>TOTAL INVESTMENT MANAGEMENT AND SERVICE FEES</b> | <b>\$10,651,101</b>                       | <b>\$ 56,156</b>       | <b>53</b>            |

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

**SCHEDULE OF BROKERAGE COMMISSIONS PAID**

| Brokerage Firm                          | YEAR ENDED JUNE 30, 2022                  |                                     |                       |
|---|---|-------------------------------------|-----------------------|
|   | Number of Shares Traded<br>(in thousands) | Total Commissions<br>(in thousands) | Commissions Per Share |
| Merrill Lynch & Company Inc.            | 7,548                                     | \$ 116                              | 0.02                  |
| J.P. Morgan                             | 4,890                                     | 103                                 | 0.02                  |
| Morgan Stanley & Company Inc.           | 4,417                                     | 92                                  | 0.02                  |
| Credit Suisse                           | 5,747                                     | 92                                  | 0.02                  |
| Jefferies & Company, Inc.               | 6,638                                     | 78                                  | 0.01                  |
| Goldman Sachs & Company                 | 4,414                                     | 76                                  | 0.02                  |
| UBS Securities/Warburg                  | 4,326                                     | 65                                  | 0.02                  |
| Barclay's Capital Inc.                  | 2,850                                     | 51                                  | 0.02                  |
| Liquidnet                               | 3,426                                     | 50                                  | 0.01                  |
| Pershing Securities LTD                 | 3,070                                     | 47                                  | 0.02                  |
| Instinet, Inc.                          | 2,847                                     | 45                                  | 0.02                  |
| Citigroup Global Markets Inc.           | 3,038                                     | 45                                  | 0.01                  |
| RBC Capital                             | 2,620                                     | 33                                  | 0.01                  |
| Exane                                   | 1,387                                     | 28                                  | 0.02                  |
| Bernstein Sanford C & CO, New York      | 5,042                                     | 32                                  | 0.01                  |
| BTIG LLC                                | 1,266                                     | 28                                  | 0.02                  |
| Wells Fargo Securities LLC              | 1,459                                     | 28                                  | 0.02                  |
| Cowen and Company LLC                   | 1,774                                     | 26                                  | 0.01                  |
| HSBC Securities                         | 1,600                                     | 23                                  | 0.01                  |
| All Others (108 not listed separately)  | 26,637                                    | 422                                 | 0.02                  |
| <b>TOTAL BROKERAGE COMMISSIONS PAID</b> | <b>94,996</b>                             | <b>\$ 1,480</b>                     | <b>0.02</b>           |

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



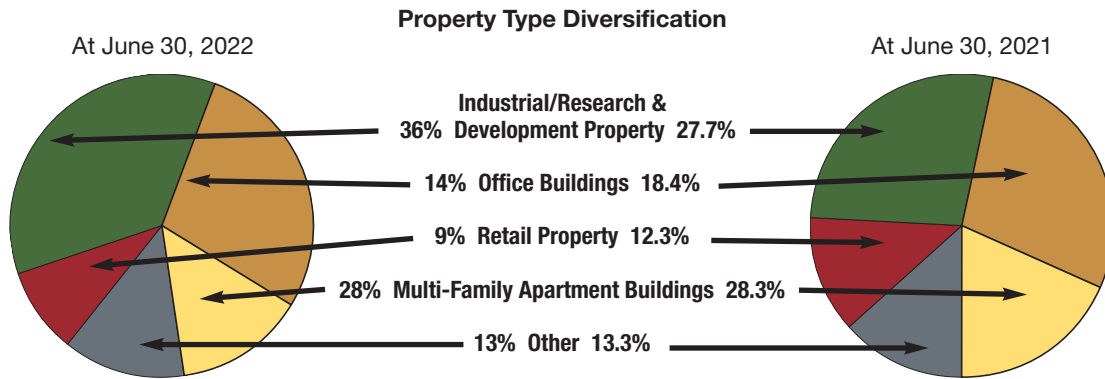
**SUMMARY OF INVESTMENTS**

| TYPE OF INVESTMENT                            | June 30, 2022               |                                |
|---|-----------------------------|--------------------------------|
|   | Fair Value<br>(in millions) | Percent of Total<br>Fair Value |
| <b>FIXED INCOME</b>                           |                             |                                |
| Collateralized/Asset Backed Securities        | \$ 219.3                    | 2.1%                           |
| Corporate Bonds                               | 469.9                       | 4.5%                           |
| Government and Agency Bonds                   | 512.7                       | 4.9%                           |
| Blackrock Strategic Income Opportunities      | 246.2                       | 2.4%                           |
| Fidelity                                      | 349.1                       | 3.4%                           |
| Manulife                                      | 197.7                       | 1.9%                           |
| <b>TOTAL FIXED INCOME</b>                     | <b>\$ 1,994.9</b>           | <b>19.1%</b>                   |
| <b>EQUITY</b>                                 |                             |                                |
| Consumer Cyclical                             | \$ 481.5                    | 4.6%                           |
| Consumer Non-Cyclical                         | 1,012.5                     | 9.7%                           |
| Energy  | 188.4                       | 1.8%                           |
| Financial Services                            | 763.3                       | 7.3%                           |
| Diversified                                   | 4.8                         | 0.0%                           |
| Industrial Materials                          | 530.4                       | 5.1%                           |
| Technology                                    | 711.8                       | 6.9%                           |
| Basic Materials                               | 167.8                       | 1.6%                           |
| Communications                                | 338.0                       | 3.3%                           |
| Utilities                                     | 119.1                       | 1.1%                           |
| Ishares Russell 2000 ETF                      | 8.2                         | 0.1%                           |
| Neuberger Berman Emerging Markets Equity Fund | 164.3                       | 1.6%                           |
| Wellington ISCRE                              | 107.9                       | 1.0%                           |
| Wellington Emerging Markets Local Equity Fund | 153.3                       | 1.5%                           |
| <b>TOTAL EQUITY</b>                           | <b>\$ 4,751.3</b>           | <b>45.7%</b>                   |
| <b>OTHER INVESTMENTS</b>                      |                             |                                |
| Alternative Investments                       | \$ 2,212.7                  | 21.3%                          |
| Real Estate                                   | 1,431.8                     | 13.8%                          |
| <b>TOTAL INVESTMENTS</b>                      | <b>\$ 10,390.7</b>          | <b>100.0%</b>                  |

**REAL ESTATE INVESTMENTS BY TYPE**

(in thousands)

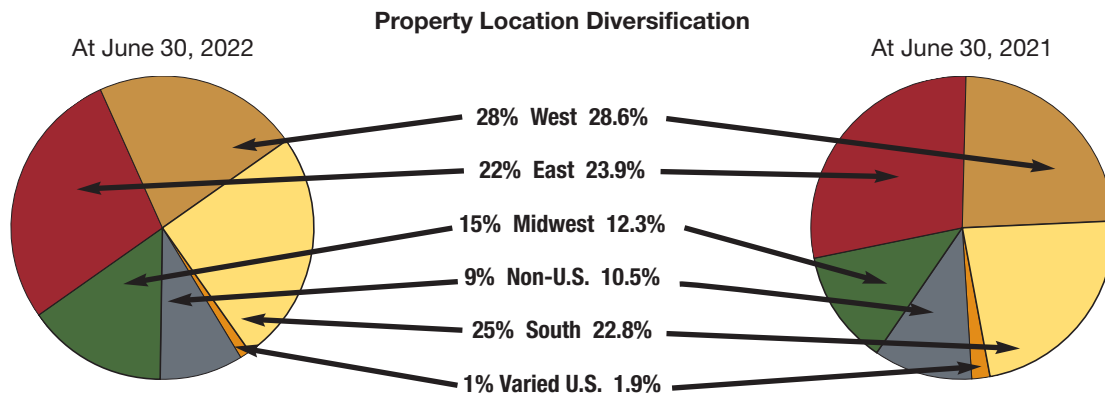
|  | JUNE 30            |                    |
|--|--------------------|--------------------|
|  | 2022               | 2021               |
| Office Buildings                             | \$ 200,449         | \$ 207,947         |
| Multi-Family Apartment Buildings             | 400,897            | 319,835            |
| Retail Property                              | 128,860            | 139,009            |
| Industrial/Research & Development Property   | 515,439            | 313,054            |
| Other  | 186,131            | 150,311            |
| <b>TOTAL REAL ESTATE INVESTMENTS BY TYPE</b> | <b>\$1,431,776</b> | <b>\$1,130,156</b> |



**REAL ESTATE INVESTMENTS BY LOCATION**

(in thousands)

|  | JUNE 30            |                    |
|--|--------------------|--------------------|
|  | 2022               | 2021               |
| West   | \$ 400,897         | \$ 323,225         |
| East   | 314,991            | 270,108            |
| South  | 357,944            | 257,676            |
| Midwest  | 214,766            | 139,009            |
| Varied U.S.                                      | 14,318             | 21,473             |
| Non-U.S.   | 128,860            | 118,667            |
| <b>TOTAL REAL ESTATE INVESTMENTS BY LOCATION</b> | <b>\$1,431,776</b> | <b>\$1,130,156</b> |



| <b>ALTERNATIVE INVESTMENTS</b>       | (in thousands)     |                         |
|--------------------------------------|--------------------|-------------------------|
|                                      | <b>2022</b>        | <b>JUNE 30<br/>2021</b> |
| Growth Equity                        | \$ 444,461         | \$ 425,952              |
| Buyouts                              | 740,855            | 783,864                 |
| Secondaries                          | 333,659            | 315,600                 |
| Mezzanine                            | 5,227              | 5,285                   |
| Distressed                           | 185,086            | 195,300                 |
| Direct Lending Strategies            | 325,088            | 363,246                 |
| Energy                               | 141,116            | 118,471                 |
| Multisector                          | 22,680             | 8,270                   |
| Specialty Finance                    | 14,550             | —                       |
| <b>TOTAL ALTERNATIVE INVESTMENTS</b> | <b>\$2,212,722</b> | <b>\$2,215,988</b>      |

| <b>NET APPRECIATION (DEPRECIATION)<br/>IN FAIR VALUE OF INVESTMENTS</b>       | (in thousands)      |                                    |
|---|---------------------|------------------------------------|
|   | <b>2022</b>         | <b>YEAR ENDED JUNE 30<br/>2021</b> |
| Equity Investments:   |                     |                                    |
| Domestic  | \$ (522,094)        | \$1,133,238                        |
| Non-U.S.  | (485,542)           | 524,973                            |
| Fixed Income Investments  | (285,185)           | 88,692                             |
| Temporary Investments   | 77                  | ( 4)                               |
| Real Estate   | 293,564             | 139,227                            |
| Growth Equity   | 46,796              | 157,484                            |
| Buyouts   | 2,981               | 267,263                            |
| Secondaries   | 27,955              | 131,936                            |
| Mezzanine   | 349                 | ( 354)                             |
| Distressed  | 12,035              | 19,989                             |
| Direct Lending  | 8,423               | 15,282                             |
| Energy  | 36,032              | 17,670                             |
| Multisector   | (248)               | 770                                |
| Specialty Finance   | 1,280               | —                                  |
| <b>TOTAL NET APPRECIATION (DEPRECIATION)<br/>IN FAIR VALUE OF INVESTMENTS</b> | <b>\$ (863,577)</b> | <b>\$2,496,167</b>                 |

**ALTERNATIVE INVESTMENT INCOME (LOSS)** (in thousands)

|   | YEAR ENDED JUNE 30 |                  |
|---|--------------------|------------------|
|   | 2022               | 2021             |
| Distressed                                  | \$ 5,684           | \$ 4,725         |
| Secondaries                                 | 1,853              | 575              |
| Direct Lending                              | 22,045             | 29,415           |
| Energy                                      | 17,002             | 2,492            |
| Mezzanine                                   | 49                 | 853              |
| Buyouts                                     | 2,597              | 6,902            |
| Growth Equity                               | 15,614             | 2,429            |
| Multisector                                 | (191)              | (143)            |
| Specialty Finance                           | (51)               | —                |
| <b>TOTAL ALTERNATIVE INVESTMENT INCOME*</b> | <b>\$ 64,602</b>   | <b>\$ 47,249</b> |

\*Other alternative investment types not listed above had no income (loss) for either of the years reported.

**REAL ESTATE INVESTMENTS INCOME AND EXPENSES** (in thousands)

|  | NET INCOME         |                  |
|--|--------------------|------------------|
|  | YEAR ENDED JUNE 30 |                  |
|  | 2022               | 2021             |
| Office Buildings                           | \$ 4,697           | \$ 2,788         |
| Multi-Family Apartment Buildings           | 7,224              | 4,288            |
| Retail Property                            | 3,139              | 1,864            |
| Industrial/Research & Development Property | 7,070              | 4,196            |
| Hotels                                     | 128                | 76               |
| Other                                      | 3,267              | 1,939            |
| <b>TOTAL</b>                               | <b>\$ 25,525</b>   | <b>\$ 15,151</b> |

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NEW HAMPSHIRE RETIREMENT SYSTEM

# ACTUARIAL SECTION

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## ACTUARIAL CERTIFICATION



800.521.0498 | P: 248.799.9000 | [www.grsconsulting.com](http://www.grsconsulting.com)

November 7, 2022

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

Attention: Ms. Jan Goodwin, Executive Director

Dear Board Members:

This report was prepared at the request of the Board and is intended for use by the New Hampshire Retirement System (“NHRS”) and those designated or approved by the Board. This report may be provided to parties other than the NHRS 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, 2022.
- 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, 2022.
- To provide supporting schedules for the Annual Comprehensive Financial Report 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 New Hampshire Retirement System staff, concerning Retirement System benefits, financial transactions, and active members, terminated members, retirees and beneficiaries as of June 30, 2022. 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 Annual Comprehensive Financial Report of the NHRS for 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

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

- Schedule of Retired and Vested Members by Type of Benefit
- Solvency Test
- 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, 2022 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, 2022. The actuarial accrued liability as of June 30, 2022 differs from the total pension (OPEB) liability as of June 30, 2022 under GASB Statement Nos. 67 and 74 because the total pension (OPEB) liability is based on a roll-forward of the June 30, 2021 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 actuarial 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. The assumptions and methods used in this report are reasonable and appropriate for funding purposes and conform to the Actuarial Standards of Practice. 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 actuarial 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, and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.



We certify that the information contained in this June 30, 2022 accounting report of the NHRS is accurate and fairly presents the actuarial position of the New Hampshire Retirement System as of June 30, 2022 under the current actuarial assumptions. For funding purposes, 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.

The actuaries submitting this report 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.

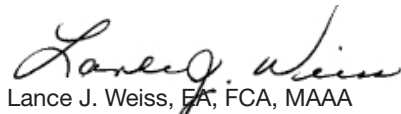
Respectfully submitted,  
Gabriel, Roeder, Smith & Company



Heidi G. Barry, ASA, FCA, MAAA



Jeffrey T. Tebeau, FSA, EA, FCA, MAAA



Lance J. Weiss, EA, FCA, 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

|   |  |
|---|--|
| <b>Administrative &amp; Investment Expenses</b> | 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, 2022 interim valuation.  |
| <b>Benefit Service</b>                          | Exact fractional service is used to determine the amount of benefit payable.   |
| <b>COLA</b>                                     | None assumed.  |
| <b>Decrement Operation</b>                      | Disability and turnover decrements do not operate during normal retirement eligibility for Group I and Group II members. They do operate for early retirement for Group I members.   |
| <b>Decrement Timing</b>                         | 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.  |
| <b>Eligibility Testing</b>                      | 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.   |
| <b>Incidence of Contributions</b>               | Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll, and the actual payroll payable at the time contributions are made.   |
| <b>Liability Adjustments</b>                    | 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.  |
| <b>Marriage Assumption</b>                      | 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.   |
| <b>Normal Form of Benefit</b>                   | 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.<br>Group I: The assumed normal form of benefit is a straight life benefit.<br>Group II: The assumed normal form of benefit is straight life for single members and joint and 50% survivor for married members. |
| <b>Pay Increase Timing</b>                      | 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.   |
| <b>New Entrant Profile</b>                      | 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.  |
| <b>Service Credit Accruals</b>                  | It is assumed that members accrue one year of service credit per year.   |
| <b>Data Adjustments</b>                         | New active member pays were annualized.  |
| <b>Medical Subsidy</b>                          | 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:

| Age | Years of Service | Annual Rate of         |        |        |       |              |       |
|-----|------------------|------------------------|--------|--------|-------|--------------|-------|
|     |                  | 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   | —      | —     | —            | —     |

| Age | Annual Rate of Normal Retirement        |        |  |        |
|-----|---|--------|--|--------|
|     | 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:**

| AGE | MORTALITY RATE |       | AGE | MORTALITY RATE |       |
|-----|----------------|-------|-----|----------------|-------|
|     | MEN            | WOMEN |     | MEN            | WOMEN |
| 35  | .07%           | .03%  | 60  | .65%           | .45%  |
| 40  | .09            | .05   | 65  | .93            | .65   |
| 45  | .11            | .07   | 70  | 1.44           | 1.04  |
| 50  | .28            | .23   | 75  | 2.44           | 1.86  |
| 55  | .42            | .33   | 80  | 4.40           | 3.42  |

**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:

| Age | Years of Service | Annual Rate of         |        |        |       |              |       |
|-----|------------------|------------------------|--------|--------|-------|--------------|-------|
|     |                  | Withdrawal and Vesting |        | Death* |       | Disability** |       |
|     |                  | 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.

| Age | Annual Rate of Normal Retirement        |        |  |        |
|-----|---|--------|--|--------|
|     | For Members Hired Prior to July 1, 2011 |        | For Members Hired On or After July 1, 2011 |        |
|     | 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             | .07  | .05   | 70             | 1.02 | .73   |
| 50             | .11  | .08   | 75             | 1.88 | 1.39  |
| 55             | .22  | .21   | 80             | 3.58 | 2.77  |



**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:

| Age | Years of Service | Annual Rate of         |        |        |       |              |       |
|-----|------------------|------------------------|--------|--------|-------|--------------|-------|
|     |                  | 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:**

| AGE | MORTALITY RATE |       | AGE | MORTALITY RATE |       |
|-----|----------------|-------|-----|----------------|-------|
|     | MEN            | WOMEN |     | MEN            | WOMEN |
| 35  | .06%           | .05%  | 60  | .51%           | .47%  |
| 40  | .08            | .06   | 65  | .85            | .74   |
| 45  | .12            | .09   | 70  | 1.41           | 1.19  |
| 50  | .17            | .14   | 75  | 2.46           | 2.06  |
| 55  | .29            | .27   | 80  | 4.47           | 3.67  |

**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:

| Age | Years of Service | Annual Rate of         |       |        |       |              |       |
|-----|------------------|------------------------|-------|--------|-------|--------------|-------|
|     |                  | Withdrawal and Vesting |       | Death* |       | Disability** |       |
|     |                  | 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:**

| AGE | MORTALITY RATE |       | AGE | MORTALITY RATE |       |
|-----|----------------|-------|-----|----------------|-------|
|     | MEN            | WOMEN |     | MEN            | WOMEN |
| 35  | .06%           | .05%  | 60  | .51%           | .47%  |
| 40  | .08            | .06   | 65  | .85            | .74   |
| 45  | .12            | .09   | 70  | 1.41           | 1.19  |
| 50  | .17            | .14   | 75  | 2.46           | 2.06  |
| 55  | .29            | .27   | 80  | 4.47           | 3.67  |

**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 2013 through 2022. 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 |
|-------------|--------------------|------------------------|----------------------|------------------------------------|
| 2022        | 24,644             | \$1,367,483            | \$ 55,489            | 4.70%                              |
| 2021        | 24,558             | 1,300,926              | 52,974               | 2.25%                              |
| 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%)                            |

\*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 |                                 |
| 2022        | 1,420          | \$27,960                        | 715                | \$ 8,699                       | 20,751            | \$311,377         | 6.59%                           |
| 2021        | 1,240          | \$23,179                        | 628                | 7,217                          | 20,046            | 292,113           | 5.78%                           |
| 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%                           |

\*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 |
|-------------|--------------------|------------------------|----------------------|------------------------------------|
| 2022        | 18,217             | \$1,226,570            | \$ 67,331            | 1.90%                              |
| 2021        | 18,131             | 1,198,236              | 66,088               | 2.00%                              |
| 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%                              |

\*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 |                                 |
| 2022        | 815            | \$24,908                        | 346                | \$7,540                        | 15,154            | \$331,167         | 5.20%                           |
| 2021        | 754            | 20,941                          | 267                | 6,110                          | 14,685            | 333,799           | 4.65%                           |
| 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%                           |

\*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 |
|-------------|--------------------|------------------------|----------------------|------------------------------------|
| 2022        | 4,103              | \$ 336,500             | \$ 82,013            | 4.80%                              |
| 2021        | 4,184              | 327,342                | 78,237               | 3.09%                              |
| 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 |                                 |
| 2022        | 332            | \$16,013                        | 115                | \$3,094                        | 4,644             | \$181,995         | 7.64%                           |
| 2021        | 287            | 13,480                          | 87                 | 2,311                          | 4,427             | 169,076           | 7.07%                           |
| 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 |
|-------------|--------------------|------------------------|----------------------|------------------------------------|
| 2022        | 1,723              | \$ 147,032             | \$ 85,335            | (0.40%)                            |
| 2021        | 1,709              | 146,464                | 85,702               | 7.2%                               |
| 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**

| 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 |                                 |
| 2022        | 95             | \$6,091                         | 45                 | \$1,327                        | 1,866             | \$82,758          | 6.11%                           |
| 2021        | 117            | 6,882                           | 54                 | 1,402                          | 1,816             | 77,994            | 7.56%                           |
| 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)   |
| 2022        | \$3,036,430                        | \$9,678,163                          | \$3,828,894  | \$10,849,694                   | 100.00%   | 81.00% | 0.00% |
| 2021        | \$3,087,943                        | \$9,151,819                          | \$3,751,453  | \$10,268,313                   | 100.00%   | 78.00% | 0.00% |
| 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)   |
| 2022        | \$1,170,730                        | \$3,071,698                          | \$1,300,176  | \$3,645,813                    | 100.00%   | 81.00% | 0.00% |
| 2021        | \$1,187,629                        | \$2,892,159                          | \$1,246,883  | \$3,449,619                    | 100.00%   | 78.00% | 0.00% |
| 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)   |
| 2022        | \$1,210,287                        | \$3,552,414                          | \$1,585,896  | \$3,976,505                    | 100.00%   | 78.00% | 0.00% |
| 2021        | \$1,220,158                        | \$3,429,767                          | \$1,632,995  | \$3,752,083                    | 100.00%   | 74.80% | 0.00% |
| 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)<br>Aggregate Member Contributions | (2)<br>Current Retirees & Beneficiaries | (3)<br>Active & Inactive Members (Employer Financed Portion)* |                                | (1)   | (2)    | (3)   |
| 2022        | \$ 424,441                            | \$2,129,277                             | \$633,839   | \$ 2,171,111                   | 100.00%   | 82.00% | 0.00% |
| 2021        | \$ 445,546                            | \$1,958,854                             | \$649,018   | \$ 2,062,170                   | 100.00%   | 83.00% | 0.00% |
| 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)<br>Aggregate Member Contributions | (2)<br>Current Retirees & Beneficiaries | (3)<br>Active & Inactive Members (Employer Financed Portion)* |                                | (1)   | (2)    | (3)   |
| 2022        | \$ 231,331                            | \$924,774                               | \$308,983   | \$ 1,056,265                   | 100.00%   | 89.00% | 0.00% |
| 2021        | \$ 234,610                            | \$871,038                               | \$322,557   | \$ 1,004,441                   | 100.00%   | 88.00% | 0.00% |
| 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<br>2021 | June 30<br>2019 | June 30<br>2017 | June 30<br>2015 | June 30, 2013      |                                       | June 30<br>2011 | June 30<br>2009 |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|--------------------|---------------------------------------|-----------------|-----------------|
|                               |                 |                 |                 |                 | State<br>Employees | Political<br>Subdivision<br>Employees |                 |                 |
| Projected Normal Rate*        | 13.75%          | 10.88%          | 11.08%          | 10.34%          | 10.51%             | 10.44%                                | 10.71%          | 9.09%           |
| Decremental Experience        | —               | —               | —               | —               | —                  | —                                     | —               | —               |
| Pensioner's Experience        | —               | —               | —               | —               | —                  | —                                     | —               | —               |
| Excess Salary Increases       | —               | —               | —               | —               | —                  | —                                     | —               | —               |
| Method Change                 | —               | (0.46)          | —               | —               | —                  | —                                     | —               | —               |
| Effect of Legislation         | —               | —               | —               | —               | —                  | —                                     | (1.95)          | (0.15)          |
| Asset (Gains)/Losses          | (0.48)          | (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            |
| <b>ACTUAL NORMAL RATE</b>     | <b>13.27%</b>   | <b>13.75%</b>   | <b>10.88%</b>   | <b>11.08%</b>   | <b>10.86%</b>      | <b>10.86%</b>                         | <b>10.44%</b>   | <b>10.71%</b>   |

#### TEACHERS

| YEAR ENDED                    | June 30<br>2021 | June 30<br>2019 | June 30<br>2017 | June 30<br>2015 | June 30<br>2013 | June 30<br>2011 | June 30<br>2009 |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Projected Normal Rate*        | 19.48%          | 15.99%          | 15.70%          | 12.09%          | 11.96%          | 11.51%          | 9.38%           |
| Decremental Experience        | —               | —               | —               | —               | —               | —               | —               |
| Pensioner's Experience        | —               | —               | —               | —               | —               | —               | —               |
| Excess Salary Increases       | —               | —               | —               | —               | —               | —               | —               |
| Method Change                 | —               | (0.40)          | —               | —               | —               | —               | —               |
| Effect of Legislation         | —               | —               | —               | —               | —               | (2.27)          | —               |
| Asset (Gains)/Losses          | (0.97)          | 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            |
| <b>ACTUAL NORMAL RATE</b>     | <b>18.51%</b>   | <b>19.48%</b>   | <b>15.99%</b>   | <b>15.70%</b>   | <b>12.72%</b>   | <b>11.96%</b>   | <b>11.51%</b>   |

\*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<br>2021 | June 30<br>2019 | June 30<br>2017 | June 30<br>2015 | June 30, 2013      |                                       | June 30<br>2011 | June 30<br>2009 |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|--------------------|---------------------------------------|-----------------|-----------------|
|                               |                 |                 |                 |                 | State<br>Employees | Political<br>Subdivision<br>Employees |                 |                 |
| Projected Normal Rate*        | 30.67%          | 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          | (1.99)          | (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            |
| <b>ACTUAL NORMAL RATE</b>     | <b>26.86%</b>   | <b>30.67%</b>   | <b>24.77%</b>   | <b>25.33%</b>   | <b>22.54%</b>      | <b>22.54%</b>                         | <b>21.35%</b>   | <b>22.92%</b>   |

**FIREFIGHTERS**

| YEAR ENDED                    | June 30<br>2021 | June 30<br>2019 | June 30<br>2017 | June 30<br>2015 | June 30, 2013      |                                       | June 30<br>2011 | June 30<br>2009 |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|--------------------|---------------------------------------|-----------------|-----------------|
|                               |                 |                 |                 |                 | State<br>Employees | Political<br>Subdivision<br>Employees |                 |                 |
| Projected Normal Rate*        | 29.78%          | 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          | (2.03)          | (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%           |
| <b>ACTUAL NORMAL RATE</b>     | <b>27.75%</b>   | <b>29.78%</b>   | <b>26.43%</b>   | <b>27.79%</b>   | <b>25.32%</b>      | <b>25.32%</b>                         | <b>23.79%</b>   | <b>28.25%</b>   |

\*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) |
|-------------------|-------------------------------|---------------------------------------|---------------------------|---|----------------------------|--|
| 6/30/22           | \$ 10,849,694                 | \$ 16,543,487                         | \$ 5,693,793              | 65.6%   | \$ 3,077,584               | 185.0%                                       |
| 6/30/21           | \$ 10,268,313                 | \$ 15,991,215                         | \$ 5,722,902              | 64.2%   | \$ 2,972,969               | 192.5%                                       |
| 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) |
|-------------------|-------------------------------|---------------------------------------|---------------------------|---|----------------------------|--|
| 6/30/22           | \$ 45,586                     | \$ 567,229                            | \$ 521,643                | 8.0%  | \$ 3,077,584               | 16.9%  |
| 6/30/21           | \$ 44,369                     | \$ 614,194                            | \$ 569,824                | 7.2%  | \$ 2,972,969               | 19.2%  |
| 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**

|   | <b>JUNE 30</b> |               |
|---|----------------|---------------|
|   | <b>2022</b>    | <b>2021</b>   |
| <b>ACTIVE CONTRIBUTING MEMBERS:</b>   |                |               |
| Employees   | 24,644         | 24,558        |
| Teachers  | 18,217         | 18,131        |
| Police Officers   | 4,103          | 4,184         |
| Firefighters  | 1,723          | 1,709         |
| <b>TOTAL ACTIVE CONTRIBUTING MEMBERS*</b>                                   | <b>48,687</b>  | <b>48,582</b> |
| *Excludes inactives   |                |               |
| <b>RETIRED MEMBERS:</b>   |                |               |
| Employees   | 20,751         | 20,046        |
| Teachers  | 15,154         | 14,685        |
| Police Officers   | 4,644          | 4,427         |
| Firefighters  | 1,866          | 1,816         |
| <b>TOTAL RETIRED MEMBERS</b>  | <b>42,415</b>  | <b>40,974</b> |
| <b>TERMINATED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:</b>       |                |               |
| Employees   | 1,530          | 1,415         |
| Teachers  | 1,263          | 1,145         |
| Police Officers   | 160            | 143           |
| Firefighters  | 37             | 27            |
| <b>TOTAL TERMINATED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:</b> | <b>2,990</b>   | <b>2,730</b>  |
| <b>INACTIVE MEMBERS:</b>  |                |               |
| Non-Vested Inactive Members   | 16,717         | 14,946        |
| <b>TOTAL TERMINATED AND INACTIVE MEMBERS</b>                                | <b>16,717</b>  | <b>14,946</b> |

**MEMBERSHIP COMPOSITION – OPEB PLAN**

|   | <b>JUNE 30</b> |              |
|---|----------------|--------------|
|   | <b>2022</b>    | <b>2021</b>  |
| <b>ACTIVE CONTRIBUTING MEMBERS:</b>   |                |              |
| OPEB Plan   | 545            | 708          |
| <b>TOTAL ACTIVE CONTRIBUTING MEMBERS</b>                                    | <b>545</b>     | <b>708</b>   |
| <b>RETIRED MEMBERS:</b>   |                |              |
| OPEB Plan   | 9,133          | 9,375        |
| <b>TOTAL RETIRED MEMBERS</b>  | <b>9,133</b>   | <b>9,375</b> |
| <b>TERMINATED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:</b>       |                |              |
| OPEB Plan   | 2,955          | 2,976        |
| <b>TOTAL TERMINATED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:</b> | <b>2,955</b>   | <b>2,976</b> |
| <b>INACTIVE MEMBERS:</b>  |                |              |
| Non-Vested Inactive Members   | —              | —            |
| <b>TOTAL TERMINATED AND INACTIVE MEMBERS</b>                                | <b>2,955</b>   | <b>2,976</b> |

**SUMMARY OF PRINCIPAL PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES**

**1 – GENERAL**

|   |   |
|---|---|
| <b>Legal Plan Name</b>                  | New Hampshire Retirement System.  |
| <b>Plan Type</b>                        | Cost-sharing multiple-employer defined benefit pension plan and Cost-sharing multiple-employer defined benefit OPEB plan.   |
| <b>Effective Date</b>                   | July 1, 1967.   |
| <b>Membership</b>                       | 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. |
| <b>Average Final Compensation (AFC)</b> | 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.   |
| <b>NOTE:</b>                            | A more detailed description of the plan provisions is available from the System’s administrative office or by visiting <a href="http://www.nhrs.org">www.nhrs.org</a> .   |

**2 – BENEFITS**

**GROUP I MEMBERS (EMPLOYEES AND TEACHERS)**

**Service Retirement**

|                          |  |
|--------------------------|--|
| <b>Eligibility</b>       | Age 60 years (age 65 for members commencing service on or after July 1, 2011).   |
| <b>Amount of Benefit</b> | A member’s annuity equal to the actuarial equivalent of the member’s accumulated contributions plus a state annuity.<br><br>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.)<br><br>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. |

**Reduced Service Retirement**

|                          |   |
|--------------------------|---|
| <b>Eligibility</b>       | 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). |
| <b>Amount of Benefit</b> | Service retirement benefit is reduced by the following percents for each month that benefits commence prior to age 60.  |

| <b>Years of Service at Retirement</b> | <b>Monthly Percent Reduction</b> |
|---------------------------------------|----------------------------------|
| 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**

|                    |   |
|--------------------|---|
| <b>Eligibility</b> | 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.

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#### 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**

- (a) If 10 years of service or if eligible for service retirement and,
  - (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.
- (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.

---

#### 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

|                          |   |
|--------------------------|---|
| <b>Eligibility</b>       | Death other than accidental death.  |
| <b>Amount of Benefit</b> | <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

|                          |   |
|--------------------------|---|
| <b>Eligibility</b>       | Accidental death occurring while in the performance of duty.  |
| <b>Amount of Benefit</b> | 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

|                          |   |
|--------------------------|---|
| <b>Eligibility</b>       | 10 years of service, if no withdrawal of contributions.   |
| <b>Amount of Benefit</b> | 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 their 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)**

|                             |  |
|-----------------------------|--|
| <b>By Members</b>           | 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. |
| <b>By Local Employer</b>    |  |
| <b>For Employee Members</b> | 100% of the normal contribution rate for their employees, plus accrued liability contributions, if any.  |
| <b>For Teacher Members</b>  | 100% of the normal contribution rate for their employees, plus accrued liability contributions, if any.  |
| <b>By the State</b>         |  |
| <b>For Employee Members</b> | 100% of the normal contribution rate for its employees, plus accrued liability contributions, if any.  |
| <b>For Teacher Members</b>  | 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)**

|                          |   |
|--------------------------|---|
| <b>By Members</b>        |   |
| <b>Firefighters</b>      | 11.80% of earnable compensation.  |
| <b>Police Officers</b>   | 11.55% of earnable compensation.  |
| <b>By Local Employer</b> | 100% of the normal contribution rate for their employees, plus accrued liability contributions, if any. |
| <b>By the State</b>      | 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:

|               | <b>Monthly Amounts</b> |                |
|---------------|------------------------|----------------|
|               | <b>Pre-65</b>          | <b>Post-65</b> |
| <b>Single</b> | \$375.56               | \$236.84       |
| <b>Couple</b> | \$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.

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NEW HAMPSHIRE RETIREMENT SYSTEM

# STATISTICAL SECTION

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**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 2022 (-6.1%), fiscal year 2021 (29.4%), 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 132% over the decade, member contributions to the pension plan were 24% higher than a decade ago. Pension benefits rose 59% over the decade. OPEB contributions have decreased 15% and benefits paid have decreased 21% 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 2022. The number of participating employers remains stable.

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## SCHEDULE OF CHANGES IN NET POSITION

### CHANGES IN NET POSITION – PENSION PLAN LAST TEN FISCAL YEARS

|   | FY<br>2022          | FY<br>2021          | FY<br>2020         | FY<br>2019          |
|---|---------------------|---------------------|--------------------|---------------------|
| <b>Additions:</b>                         |                     |                     |                    |                     |
| Employer Contributions                    | \$ 579,028          | \$ 459,278          | \$ 445,021         | \$ 434,407          |
| Member Contributions                      | 243,982             | 236,879             | 229,726            | 223,995             |
| Net Investment Income (Loss)              | (690,177)           | 2,617,660           | 101,039            | 488,272             |
| Other                                     | —                   | —                   | —                  | —                   |
| <b>Total Additions to Net Position</b>    | <b>\$ 132,833</b>   | <b>\$ 3,313,817</b> | <b>\$ 775,786</b>  | <b>\$ 1,146,674</b> |
| <b>Deductions:</b>                        |                     |                     |                    |                     |
| Pension Benefits                          | \$ 913,994          | \$ 858,211          | \$ 816,708         | \$ 780,907          |
| Refunds of Contributions                  | 23,727              | 19,884              | 23,312             | 23,464              |
| Administrative Expense                    | 9,523               | 8,417               | 8,282              | 7,436               |
| Professional Fees                         | 517                 | 546                 | 656                | 686                 |
| Other                                     | 594                 | 244                 | 237                | 275                 |
| <b>Total Deductions from Net Position</b> | <b>\$ 948,355</b>   | <b>\$ 887,302</b>   | <b>\$ 849,195</b>  | <b>\$ 812,768</b>   |
| <b>Change in Net Position</b>             | <b>\$ (815,522)</b> | <b>\$ 2,426,515</b> | <b>\$ (73,409)</b> | <b>\$ 333,906</b>   |

### CHANGES IN NET POSITION OPEB PLAN – LAST TEN FISCAL YEARS

|   | FY<br>2022        | FY<br>2021       | FY<br>2020       | FY<br>2019       |
|---|-------------------|------------------|------------------|------------------|
| <b>Additions:</b>                         |                   |                  |                  |                  |
| Employer Contributions                    | \$ 42,064         | \$ 48,054        | \$ 46,460        | \$ 45,509        |
| Net Investment Income (Loss)              | (2,820)           | 10,704           | 396              | 1,979            |
| <b>Total Additions to Net Position</b>    | <b>\$ 39,244</b>  | <b>\$ 58,758</b> | <b>\$ 46,856</b> | <b>\$ 47,488</b> |
| <b>Deductions:</b>                        |                   |                  |                  |                  |
| Benefits Paid                             | \$ 43,809         | \$ 45,499        | \$ 46,816        | \$ 47,798        |
| Administrative Expense                    | 234               | 172              | 169              | 152              |
| Professional Fees                         | 2                 | 2                | 2                | 2                |
| Other                                     | 2                 | 1                | 1                | 1                |
| <b>Total Deductions from Net Position</b> | <b>\$ 44,047</b>  | <b>\$ 45,674</b> | <b>\$ 46,988</b> | <b>\$ 47,953</b> |
| <b>Change in Net Position</b>             | <b>\$ (4,803)</b> | <b>\$ 13,084</b> | <b>\$ (132)</b>  | <b>\$ (465)</b>  |



| (in thousands)      |                     |                    |                   |                     |                     |
|---------------------|---------------------|--------------------|-------------------|---------------------|---------------------|
| FY<br>2018          | FY<br>2017          | FY<br>2016         | FY<br>2015        | FY<br>2014          | FY<br>2013          |
| \$ 422,659          | \$ 366,653          | \$ 357,482         | \$ 332,294        | \$ 328,444          | \$ 249,835          |
| 217,572             | 213,061             | 207,949            | 204,063           | 199,033             | 196,489             |
| 717,089             | 978,246             | 61,878             | 249,806           | 1,092,585           | 813,671             |
| —                   | —                   | —                  | —                 | —                   | 111                 |
| <b>\$ 1,357,320</b> | <b>\$ 1,557,960</b> | <b>\$ 627,309</b>  | <b>\$ 786,163</b> | <b>\$ 1,620,062</b> | <b>\$ 1,260,106</b> |
| \$ 741,753          | \$ 706,304          | \$ 670,360         | \$ 631,312        | \$ 599,476          | \$ 573,469          |
| 24,010              | 23,408              | 24,233             | 26,345            | 26,120              | 23,191              |
| 7,767               | 7,671               | 7,061              | 7,582             | 7,377               | 6,999               |
| 687                 | 644                 | 950                | 1,318             | 1,080               | 972                 |
| 224                 | 263                 | 313                | 308               | 366                 | 818                 |
| <b>\$ 774,441</b>   | <b>\$ 738,290</b>   | <b>\$ 702,917</b>  | <b>\$ 666,865</b> | <b>\$ 634,419</b>   | <b>\$ 605,449</b>   |
| <b>\$ 582,879</b>   | <b>\$ 819,670</b>   | <b>\$ (75,608)</b> | <b>\$ 119,298</b> | <b>\$ 985,643</b>   | <b>\$ 654,657</b>   |

| (in thousands)     |                  |                  |                    |                  |                   |
|--------------------|------------------|------------------|--------------------|------------------|-------------------|
| FY<br>2018         | FY<br>2017       | FY<br>2016       | FY<br>2015         | FY<br>2014       | FY<br>2013        |
| \$ 44,194          | \$ 59,197        | \$ 58,174        | \$ 48,915          | \$ 48,881        | \$ 49,712         |
| 3,129              | 4,045            | 148              | 1,119              | 5,381            | 4,490             |
| <b>\$ 47,323</b>   | <b>\$ 63,242</b> | <b>\$ 58,322</b> | <b>\$ 50,034</b>   | <b>\$ 54,262</b> | <b>\$ 54,202</b>  |
| \$ 49,251          | \$ 50,560        | \$ 51,805        | \$ 53,297          | \$ 53,811        | \$ 55,146         |
| 33                 | 32               | 17               | 34                 | 36               | 1,028             |
| 3                  | 4                | 2                | 5                  | 5                | 5                 |
| 1                  | —                | 1                | 2                  | 1                | 4                 |
| <b>\$ 49,288</b>   | <b>\$ 50,596</b> | <b>\$ 51,825</b> | <b>\$ 53,338</b>   | <b>\$ 53,853</b> | <b>\$ 56,183</b>  |
| <b>\$ ( 1,965)</b> | <b>\$ 12,646</b> | <b>\$ 6,497</b>  | <b>\$ ( 3,304)</b> | <b>\$ 409</b>    | <b>\$ (1,981)</b> |

## SCHEDULE OF BENEFIT AND REFUND DEDUCTIONS BY TYPE

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

|                           | FY<br>2022        | FY<br>2021        | FY<br>2020        | FY<br>2019        |
|---------------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Type of Benefit</b>    |                   |                   |                   |                   |
| Age and Service Benefits: |                   |                   |                   |                   |
| Service Retirement        | \$ 593,274        | \$ 551,328        | \$ 518,060        | \$ 491,781        |
| Early Retirement          | 183,310           | 178,987           | 176,605           | 171,766           |
| Survivors                 | 44,094            | 40,745            | 38,083            | 43,832            |
| Vested Deferred           | 40,811            | 36,949            | 34,261            | 31,554            |
| Other                     | 15,369            | 14,709            | 14,234            | 13,432            |
| Death in Service Benefit  | 2,413             | 2,254             | 3,190             | 3,495             |
| Disability Benefits       |                   |                   |                   |                   |
| Duty Related              | 22,252            | 21,153            | 20,615            | 22,594            |
| Non Duty Related          | 9,750             | 9,533             | 9,322             | 10,027            |
| Survivors                 | 2,721             | 2,558             | 2,338             | 2,426             |
| <b>Total Benefits</b>     | <b>\$ 913,994</b> | <b>\$ 828,210</b> | <b>\$ 816,708</b> | <b>\$ 780,907</b> |
| <b>Type of Refund</b>     |                   |                   |                   |                   |
| Separation                | \$ 18,950         | \$ 14,995         | \$ 18,393         | \$ 18,768         |
| Death                     | 4,777             | 4,889             | 4,912             | 4,696             |
| <b>Total Refunds</b>      | <b>\$ 23,727</b>  | <b>\$ 19,884</b>  | <b>\$ 23,312</b>  | <b>\$ 23,464</b>  |

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

|                          | FY<br>2022       | FY<br>2021       | FY<br>2020       | FY<br>2019       |
|--------------------------|------------------|------------------|------------------|------------------|
| <b>OPEB PLAN</b>         |                  |                  |                  |                  |
| <b>Type of Benefit</b>   |                  |                  |                  |                  |
| Medical Subsidy Payments | \$ 43,809        | \$ 45,449        | \$ 46,816        | \$ 47,798        |
| <b>Total Benefits</b>    | <b>\$ 43,809</b> | <b>\$ 45,499</b> | <b>\$ 46,816</b> | <b>\$ 47,798</b> |

(in thousands)

| FY<br>2018        | FY<br>2017        | FY<br>2016        | FY<br>2015        | FY<br>2014        | FY<br>2013        |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| \$ 452,862        | \$ 425,306        | \$ 398,056        | \$ 368,298        | \$ 344,810        | \$ 325,542        |
| 168,717           | 166,373           | 162,987           | 159,342           | 156,539           | 154,821           |
| 41,693            | 39,420            | 36,989            | 34,572            | 32,444            | 30,738            |
| 29,321            | 27,581            | 25,937            | 24,161            | 22,463            | 20,730            |
| 12,624            | 12,066            | 11,201            | 10,421            | 9,585             | 8,800             |
| 2,396             | 2,314             | 2,608             | 2,430             | 1,744             | 1,719             |
| 22,216            | 21,843            | 21,599            | 21,152            | 20,837            | 20,674            |
| 9,772             | 9,410             | 9,200             | 9,047             | 9,080             | 8,787             |
| 2,152             | 1,991             | 1,783             | 1,889             | 1,974             | 1,658             |
| <b>\$ 741,753</b> | <b>\$ 706,304</b> | <b>\$ 670,360</b> | <b>\$ 631,312</b> | <b>\$ 599,476</b> | <b>\$ 573,469</b> |
| \$ 18,504         | \$ 19,032         | \$ 18,856         | \$ 20,121         | \$ 21,429         | \$ 18,133         |
| 5,507             | 4,376             | 5,377             | 6,224             | 4,691             | 5,058             |
| <b>\$ 24,011</b>  | <b>\$ 23,408</b>  | <b>\$ 24,233</b>  | <b>\$ 26,345</b>  | <b>\$ 26,120</b>  | <b>\$ 23,191</b>  |

(in thousands)

| FY<br>2018       | FY<br>2017       | FY<br>2016       | FY<br>2015       | FY<br>2014       | FY<br>2013       |
|------------------|------------------|------------------|------------------|------------------|------------------|
| \$ 49,251        | \$ 50,560        | \$ 51,805        | \$ 53,298        | \$ 53,145        | \$ 55,145        |
| <b>\$ 49,251</b> | <b>\$ 50,560</b> | <b>\$ 51,805</b> | <b>\$ 53,298</b> | <b>\$ 53,145</b> | <b>\$ 55,145</b> |

## SCHEDULE OF RETIRED AND VESTED MEMBERS BY TYPE OF BENEFIT

### SCHEDULE OF RETIRED AND VESTED MEMBERS BY TYPE OF BENEFITS AS OF JUNE 30, 2022 PENSION PLAN

| Amount of Monthly Benefit | Number of Retirees | Type of Retirement* |            |            |           |           |              |              |
|---------------------------|--------------------|---------------------|------------|------------|-----------|-----------|--------------|--------------|
|                           |                    | 1                   | 2          | 3          | 4         | 5         | 6            | 7            |
| <b>EMPLOYEES</b>          |                    |                     |            |            |           |           |              |              |
| 1-500                     | 5,207              | 4,296               | 43         | 2          | 14        | —         | 592          | 260          |
| 501-1,000                 | 6,211              | 4,686               | 258        | 90         | 13        | 2         | 502          | 660          |
| 1,001-1,500               | 3,953              | 3,049               | 101        | 216        | 17        | 3         | 250          | 317          |
| 1,501-2,000               | 2,394              | 1,949               | 32         | 105        | 5         | 4         | 146          | 153          |
| 2,001-2,500               | 1,538              | 1,312               | 13         | 40         | —         | 2         | 99           | 72           |
| 2,501-3,000               | 1,018              | 909                 | 6          | 11         | 2         | 1         | 57           | 32           |
| 3,001-3,500               | 682                | 628                 | —          | 10         | 3         | —         | 26           | 15           |
| 3,501-4,000               | 492                | 463                 | 2          | 1          | —         | —         | 18           | 8            |
| Over 4,000                | 786                | 737                 | 2          | 2          | 4         | —         | 28           | 13           |
| <b>Totals</b>             | <b>22,281</b>      | <b>18,029</b>       | <b>457</b> | <b>477</b> | <b>58</b> | <b>12</b> | <b>1,718</b> | <b>1,530</b> |
| <b>TEACHERS</b>           |                    |                     |            |            |           |           |              |              |
| \$1-500                   | 1,430              | 1,264               | 1          | —          | —         | —         | 104          | 61           |
| 501-1,000                 | 2,436              | 1,752               | 31         | —          | 4         | —         | 166          | 483          |
| 1,001-1,500               | 2,414              | 1,847               | 77         | 3          | 8         | —         | 129          | 350          |
| 1,501-2,000               | 2,386              | 2,003               | 32         | 3          | 11        | —         | 143          | 194          |
| 2,001-2,500               | 2,324              | 2,108               | 16         | 12         | 1         | 1         | 112          | 76           |
| 2,501-3,000               | 1,831              | 1,696               | 8          | 5          | 1         | —         | 73           | 48           |
| 3,001-3,500               | 1,537              | 1,436               | 3          | 2          | —         | —         | 70           | 26           |
| 3,501-4,000               | 992                | 935                 | —          | —          | 2         | —         | 38           | 17           |
| Over 4,000                | 1,065              | 1,028               | —          | —          | 1         | —         | 28           | 8            |
| <b>Totals</b>             | <b>16,417</b>      | <b>14,069</b>       | <b>168</b> | <b>25</b>  | <b>28</b> | <b>1</b>  | <b>863</b>   | <b>1,263</b> |
| <b>POLICE OFFICERS</b>    |                    |                     |            |            |           |           |              |              |
| \$1-500                   | 273                | 197                 | 1          | —          | —         | —         | 44           | 31           |
| 501-1,000                 | 366                | 208                 | 9          | 1          | 2         | —         | 141          | 7            |
| 1,001-1,500               | 478                | 222                 | 24         | 3          | 2         | 1         | 186          | 40           |
| 1,501-2,000               | 380                | 215                 | 19         | 26         | 2         | —         | 87           | 31           |
| 2,001-2,500               | 432                | 293                 | 12         | 54         | 1         | 1         | 48           | 23           |
| 2,501-3,000               | 467                | 326                 | 6          | 86         | —         | —         | 37           | 12           |
| 3,001-3,500               | 450                | 373                 | 1          | 44         | 1         | 3         | 22           | 6            |
| 3,501-4,000               | 388                | 329                 | 3          | 42         | 2         | —         | 9            | 3            |
| Over 4,000                | 1,570              | 1,461               | 2          | 78         | 3         | 2         | 17           | 7            |
| <b>Totals</b>             | <b>4,804</b>       | <b>3,622</b>        | <b>77</b>  | <b>334</b> | <b>13</b> | <b>7</b>  | <b>591</b>   | <b>160</b>   |
| <b>FIREFIIGHTERS</b>      |                    |                     |            |            |           |           |              |              |
| \$1-500                   | 59                 | 31                  | —          | —          | —         | 2         | 21           | 5            |
| 501-1,000                 | 96                 | 43                  | 2          | —          | —         | —         | 49           | 2            |
| 1,001-1,500               | 165                | 62                  | 8          | 2          | 1         | 3         | 78           | 11           |
| 1,501-2,000               | 167                | 69                  | 4          | 7          | —         | 1         | 80           | 6            |
| 2,001-2,500               | 157                | 94                  | 8          | 11         | 1         | 2         | 35           | 6            |
| 2,501-3,000               | 171                | 126                 | 3          | 22         | —         | 1         | 17           | 2            |
| 3,001-3,500               | 178                | 149                 | —          | 19         | —         | 2         | 5            | 3            |
| 3,501-4,000               | 157                | 140                 | —          | 13         | —         | 1         | 2            | 1            |
| Over 4,000                | 753                | 717                 | —          | 23         | 2         | —         | 10           | 1            |
| <b>Totals</b>             | <b>1,430</b>       | <b>1,430</b>        | <b>25</b>  | <b>97</b>  | <b>4</b>  | <b>12</b> | <b>297</b>   | <b>37</b>    |

\* 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*       |
| 3,216             | 87         | 381          | 145        | 784          | 31           | 11        | 13        | —        | —        | 260          |
| 3,508             | 77         | 484          | 146        | 946          | 364          | 20        | 6         | —        | —        | 660          |
| 2,072             | 58         | 399          | 100        | 715          | 278          | 11        | 3         | —        | —        | 317          |
| 1,214             | 25         | 256          | 101        | 451          | 181          | 8         | 5         | —        | —        | 153          |
| 716               | 11         | 196          | 69         | 331          | 135          | 3         | 5         | —        | —        | 72           |
| 429               | 17         | 149          | 51         | 235          | 102          | 2         | 1         | —        | —        | 32           |
| 287               | 6          | 121          | 44         | 143          | 65           | 1         | —         | —        | —        | 15           |
| 196               | 5          | 89           | 33         | 111          | 46           | 2         | 2         | —        | —        | 8            |
| 324               | 8          | 138          | 63         | 148          | 88           | 3         | 1         | —        | —        | 13           |
| <b>11,962</b>     | <b>294</b> | <b>2,213</b> | <b>752</b> | <b>3,864</b> | <b>1,569</b> | <b>61</b> | <b>36</b> | <b>—</b> | <b>—</b> | <b>1,530</b> |
| 727               | 19         | 117          | 42         | 352          | 104          | 2         | 6         | —        | —        | 61           |
| 1,236             | 31         | 165          | 42         | 382          | 90           | 6         | 1         | —        | —        | 483          |
| 1,140             | 35         | 213          | 58         | 466          | 139          | 6         | 7         | —        | —        | 350          |
| 1,106             | 38         | 195          | 63         | 561          | 214          | 4         | 11        | —        | —        | 194          |
| 1,041             | 34         | 235          | 85         | 597          | 241          | 7         | 10        | —        | —        | 76           |
| 775               | 39         | 159          | 62         | 515          | 225          | 4         | 4         | —        | —        | 48           |
| 677               | 17         | 152          | 62         | 438          | 154          | 5         | 6         | —        | —        | 26           |
| 425               | 14         | 129          | 34         | 252          | 120          | —         | 1         | —        | —        | 17           |
| 510               | 10         | 144          | 42         | 229          | 122          | —         | —         | —        | —        | 8            |
| <b>7,637</b>      | <b>237</b> | <b>1,509</b> | <b>490</b> | <b>3,790</b> | <b>1,409</b> | <b>34</b> | <b>46</b> | <b>—</b> | <b>—</b> | <b>1,263</b> |
| 172               | 1          | 10           | 16         | 19           | 23           | —         | —         | —        | —        | 31           |
| 278               | 5          | 12           | 9          | 20           | 32           | 1         | 2         | —        | —        | 7            |
| 331               | 7          | 20           | 21         | 20           | 39           | —         | —         | —        | —        | 40           |
| 230               | 10         | 11           | 20         | 16           | 62           | —         | —         | —        | —        | 31           |
| 218               | 16         | 15           | 55         | 14           | 89           | —         | 2         | —        | —        | 23           |
| 201               | 18         | 18           | 74         | 18           | 125          | 1         | —         | —        | —        | 12           |
| 174               | 12         | 10           | 100        | 9            | 138          | —         | 1         | —        | —        | 6            |
| 138               | 8          | 6            | 80         | 10           | 143          | —         | —         | —        | —        | 3            |
| 461               | 21         | 26           | 418        | 22           | 612          | 3         | —         | —        | —        | 7            |
| <b>2,203</b>      | <b>99</b>  | <b>128</b>   | <b>793</b> | <b>148</b>   | <b>1,263</b> | <b>5</b>  | <b>5</b>  | <b>—</b> | <b>—</b> | <b>160</b>   |
| 47                | —          | 1            | —          | 2            | 4            | —         | —         | —        | —        | 5            |
| 88                | —          | 2            | —          | 1            | 3            | —         | —         | —        | —        | 2            |
| 127               | 4          | 5            | 6          | 7            | 4            | 1         | —         | —        | —        | 11           |
| 130               | 4          | 4            | 7          | 8            | 8            | —         | —         | —        | —        | 6            |
| 87                | 7          | 6            | 15         | 7            | 28           | 1         | —         | —        | —        | 6            |
| 67                | 7          | 3            | 34         | 9            | 49           | —         | —         | —        | —        | 2            |
| 55                | 7          | 5            | 40         | 3            | 65           | —         | —         | —        | —        | 3            |
| 52                | 3          | 3            | 27         | 3            | 68           | —         | —         | —        | —        | 1            |
| 223               | 14         | 3            | 195        | 7            | 309          | —         | 1         | —        | —        | 1            |
| <b>876</b>        | <b>46</b>  | <b>32</b>    | <b>324</b> | <b>47</b>    | <b>538</b>   | <b>2</b>  | <b>1</b>  | <b>—</b> | <b>—</b> | <b>37</b>    |

# 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, 2022**  
**OPEB PLAN**

| Amount of Monthly Benefit | Number of Retirees | One Person |              | Two Person |            |
|---------------------------|--------------------|------------|--------------|------------|------------|
|                           |                    | Pre 65     | Post 65      | Pre 65     | Post 65    |
| <b>TOTAL – OPEB PLAN</b>  |                    |            |              |            |            |
| \$1-500                   | 7,847              | 491        | 7,169        | 28         | 159        |
| 501-1,000                 | 1,273              | 41         | 321          | 601        | 310        |
| 1,001-1,500               | 9                  | —          | 2            | 4          | 3          |
| 1,501-2,000               | 4                  | —          | —            | 4          | —          |
| Over \$2,000              | —                  | —          | —            | —          | —          |
| <b>Total</b>              | <b>9,133</b>       | <b>532</b> | <b>7,492</b> | <b>637</b> | <b>472</b> |

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**SCHEDULES OF AVERAGE  
BENEFIT PAYMENT  
AMOUNTS**

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

| 2022<br>Service            | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|----------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                            | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>yrs. |                    |          |
| Average monthly benefit    | \$341                  | \$488       | \$660         | \$989         | \$1,303       | \$1,800       | \$2,658            | \$1,250  |
| Average annual benefit     | \$4,087                | \$5,851     | \$7,919       | \$11,864      | \$15,641      | \$21,598      | \$31,899           | \$15,005 |
| Average final compensation | \$50,124               | \$45,963    | \$44,061      | \$50,335      | \$54,509      | \$62,419      | \$70,521           | \$53,965 |
| Number of retired members  | 1,375*                 | 1,846       | 4,938         | 3,556         | 3,556         | 2,161         | 3,610              | 20,751** |

\*Includes 382 members who did not have service reported.

\*\*Includes 5,565 members who did not have FAS reported.

| 2021<br>Service            | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|----------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                            | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>yrs. |                    |          |
| Average monthly benefit    | \$336                  | \$480       | \$651         | \$976         | \$1,272       | \$1,755       | \$2,589            | \$1,214  |
| Average annual benefit     | \$4,036                | \$5,756     | \$7,809       | \$11,709      | \$15,261      | \$21,055      | \$31,072           | \$14,572 |
| Average final compensation | \$48,466               | \$45,170    | \$43,170      | \$49,797      | \$53,333      | \$60,751      | \$69,208           | \$52,897 |
| Number of retired members  | 1,352*                 | 1,830       | 4,733         | 3,415         | 3,211         | 2,084         | 3,421              | 20,046** |

\*Includes 370 members who did not have service reported.

\*\*Includes 5,745 members who did not have FAS reported.

| 2020<br>Service            | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|----------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                            | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service            | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|----------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                            | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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.



| <b>2016</b>                  |                               |                 |                   |                   |                   |                   |                        |              |
|------------------------------|-------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|------------------------|--------------|
| <b>Service</b>               | <b>Years Credited Service</b> |                 |                   |                   |                   |                   | <b>30 or more yrs.</b> | <b>Total</b> |
|                              | <b>0–4 yrs.</b>               | <b>5–9 yrs.</b> | <b>10–14 yrs.</b> | <b>15–19 yrs.</b> | <b>20–24 yrs.</b> | <b>25–29 yrs.</b> |                        |              |
| 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.

| <b>2015</b>                  |                               |                 |                   |                   |                   |                   |                        |              |
|------------------------------|-------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|------------------------|--------------|
| <b>Service</b>               | <b>Years Credited Service</b> |                 |                   |                   |                   |                   | <b>30 or more yrs.</b> | <b>Total</b> |
|                              | <b>0–4 yrs.</b>               | <b>5–9 yrs.</b> | <b>10–14 yrs.</b> | <b>15–19 yrs.</b> | <b>20–24 yrs.</b> | <b>25–29 yrs.</b> |                        |              |
| 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.

| <b>2014</b>                  |                               |                 |                   |                   |                   |                   |                        |              |
|------------------------------|-------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|------------------------|--------------|
| <b>Service</b>               | <b>Years Credited Service</b> |                 |                   |                   |                   |                   | <b>30 or more yrs.</b> | <b>Total</b> |
|                              | <b>0–4 yrs.</b>               | <b>5–9 yrs.</b> | <b>10–14 yrs.</b> | <b>15–19 yrs.</b> | <b>20–24 yrs.</b> | <b>25–29 yrs.</b> |                        |              |
| 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.

| <b>2013</b>                  |                               |                 |                   |                   |                   |                   |                        |              |
|------------------------------|-------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|------------------------|--------------|
| <b>Service</b>               | <b>Years Credited Service</b> |                 |                   |                   |                   |                   | <b>30 or more yrs.</b> | <b>Total</b> |
|                              | <b>0–4 yrs.</b>               | <b>5–9 yrs.</b> | <b>10–14 yrs.</b> | <b>15–19 yrs.</b> | <b>20–24 yrs.</b> | <b>25–29 yrs.</b> |                        |              |
| 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.

| <b>2012</b>                  |                               |                 |                   |                   |                   |                   |                        |              |
|------------------------------|-------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|------------------------|--------------|
| <b>Service</b>               | <b>Years Credited Service</b> |                 |                   |                   |                   |                   | <b>30 or more yrs.</b> | <b>Total</b> |
|                              | <b>0–4 yrs.</b>               | <b>5–9 yrs.</b> | <b>10–14 yrs.</b> | <b>15–19 yrs.</b> | <b>20–24 yrs.</b> | <b>25–29 yrs.</b> |                        |              |
| 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.

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

| 2022<br>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    | \$522                  | \$587    | \$777      | \$1,222    | \$1,611    | \$2,026    | \$2,960         | \$1,931  |
| Average annual benefit     | \$6,268                | \$7,043  | \$9,321    | \$14,661   | \$19,336   | \$24,310   | \$35,523        | \$23,173 |
| Average final compensation | \$56,057               | \$58,987 | \$53,231   | \$62,992   | \$68,220   | \$72,016   | \$76,725        | \$68,654 |
| Number of retired members  | 341*                   | 394      | 1,818      | 2,015      | 2,985      | 2,464      | 5,107           | 15,154** |

\* Includes 167 members who did not have service reported.

\*\* Includes 4,453 members who did not have FAS reported.

| 2021<br>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    | \$520                  | \$579    | \$767      | \$1,200    | \$1,573    | \$1,985    | \$2,896         | \$1,894  |
| Average annual benefit     | \$6,235                | \$6,945  | \$9,198    | \$14,404   | \$18,878   | \$23,820   | \$34,757        | \$22,731 |
| Average final compensation | \$54,232               | \$58,365 | \$52,741   | \$62,347   | \$67,154   | \$71,132   | \$75,968        | \$67,874 |
| Number of retired members  | 327*                   | 387      | 1,775      | 1,932      | 2,860      | 2,415      | 4,989           | 14,685** |

\* Includes 158 members who did not have service reported.

\*\* Includes 4,532 members who did not have FAS reported.

| 2020<br>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<br>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<br>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<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total      |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|------------|
|                              | 0–4.<br>yrs.           | 5–9<br>yrs. | 10–14<br>yrs. | 15–19<br>yrs. | 20–24<br>yrs. | 25–29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0–4.<br>yrs.           | 5–9<br>yrs. | 10–14<br>yrs. | 15–19<br>yrs. | 20–24<br>yrs. | 25–29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0–4.<br>yrs.           | 5–9<br>yrs. | 10–14<br>yrs. | 15–19<br>yrs. | 20–24<br>yrs. | 25–29<br>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 | \$51,604               | \$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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0–4.<br>yrs.           | 5–9<br>yrs. | 10–14<br>yrs. | 15–19<br>yrs. | 20–24<br>yrs. | 25–29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0–4.<br>yrs.           | 5–9<br>yrs. | 10–14<br>yrs. | 15–19<br>yrs. | 20–24<br>yrs. | 25–29<br>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.

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

| 2022<br>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    | \$1,032                | \$1,422  | \$1,657    | \$2,502    | \$3,433    | \$4,985    | \$6,500         | \$3,266  |
| Average annual benefit     | \$12,389               | \$17,066 | \$19,886   | \$30,027   | \$41,200   | \$59,819   | \$77,998        | \$39,189 |
| Average final compensation | \$57,453               | \$58,218 | \$58,181   | \$71,964   | \$88,234   | \$101,183  | \$111,153       | \$85,049 |
| Number of retired members  | 507*                   | 216      | 489        | 450        | 1,887      | 790        | 305             | 4,644**  |

\* Includes 355 members who did not have service reported.

\*\* Includes 1,819 members who did not have FAS reported.

| 2021<br>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    | \$1,025                | \$1,422  | \$1,630    | \$2,422    | \$3,341    | \$4,857    | \$6,490         | \$3,183  |
| Average annual benefit     | \$12,299               | \$17,062 | \$19,559   | \$29,063   | \$40,094   | \$58,281   | \$77,878        | \$38,192 |
| Average final compensation | \$57,310               | \$57,326 | \$56,875   | \$70,223   | \$85,858   | \$98,567   | \$109,567       | \$82,952 |
| Number of retired members  | 483*                   | 213      | 484        | 422        | 1,788      | 749        | 288             | 4,427**  |

\* Includes 337 members who did not have service reported.

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

| 2020<br>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    | \$1,006                | \$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<br>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    | \$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<br>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      | \$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<br>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      | \$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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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.

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

| 2022<br>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    | \$1,228                | \$1,386  | \$1,812    | \$2,483    | \$3,099    | \$4,570    | \$6,947         | \$3,696  |
| Average annual benefit     | \$14,736               | \$16,627 | \$21,739   | \$29,794   | \$37,184   | \$54,841   | \$83,360        | \$44,350 |
| Average final compensation | \$59,856               | \$64,768 | \$64,721   | \$78,801   | \$85,127   | \$96,443   | \$111,314       | \$91,878 |
| Number of retired members  | 168*                   | 38       | 108        | 150        | 677        | 448        | 277             | 1,866**  |

\* Includes 147 members who did not have service reported.

\*\* Includes 868 members who did not have FAS reported.

| 2021<br>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    | \$1,215                | \$1,322  | \$1,789    | \$2,431    | \$3,006    | \$4,472    | \$6,735         | \$3,579  |
| Average annual benefit     | \$14,581               | \$15,858 | \$21,471   | \$29,166   | \$36,077   | \$53,663   | \$80,821        | \$42,948 |
| Average final compensation | \$61,203               | \$64,515 | \$63,840   | \$77,559   | \$82,876   | \$94,393   | \$108,631       | \$89,823 |
| Number of retired members  | 167*                   | 36       | 108        | 146        | 663        | 433        | 263             | 1,816**  |

\* Includes 147 members who did not have service reported.

\*\* Includes 883 members who did not have FAS reported.

| 2020<br>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    | \$1,177                | \$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<br>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    | \$1,158                | \$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<br>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      | \$1,157                | \$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<br>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      | \$1,154                | \$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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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<br>Service              | Years Credited Service |             |               |               |               |               | 30 or<br>more yrs. | Total    |
|------------------------------|------------------------|-------------|---------------|---------------|---------------|---------------|--------------------|----------|
|                              | 0-4.<br>yrs.           | 5-9<br>yrs. | 10-14<br>yrs. | 15-19<br>yrs. | 20-24<br>yrs. | 25-29<br>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.

**SCHEDULES OF AVERAGE BENEFIT PAYMENT AMOUNTS – OPEB PLAN**

|   | Service | 2022 | 0-4 yrs**  | 5-9 yrs  |
|---|---------|------|------------|----------|
| Average Monthly Benefit                                 |         |      | \$302      | \$330    |
| Average Annual Benefits                                 |         |      | \$3,620    | \$3,962  |
| Number of retired members                               |         |      | 145        | 124      |
| **Includes 40 members who did not have service reported |         |      |            |          |
|   | Service | 2021 | 0-4 yrs**  | 5-9 yrs  |
| Average Monthly Benefit                                 |         |      | \$306      | \$350    |
| Average Annual Benefits                                 |         |      | \$3,673    | \$4,206  |
| Number of retired members                               |         |      | 156        | 130      |
| **Includes 44 members who did not have service reported |         |      |            |          |
|   | Service | 2020 | 0-4 yrs**  | 5-9 yrs  |
| Average Monthly Benefit                                 |         |      | \$331      | \$354    |
| Average Annual Benefits                                 |         |      | \$3,971    | \$4,244  |
| 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    |
| Average Annual Benefits                                 |         |      | \$4,037    | \$4,394  |
| 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    |
| Average Annual Benefits                                 |         |      | \$4,187    | \$4,572  |
| 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    |
| Average Annual Benefits                                 |         |      | \$4,320    | \$4,591  |
| 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    |
| Average Annual Benefits                                 |         |      | \$4,390    | \$4,714  |
| 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    |
| Average Annual Benefits                                 |         |      | \$4,476    | \$4,701  |
| 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    |
| Average Annual Benefits                                 |         |      | \$4,978    | \$5,094  |
| 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    |
| Average Annual Benefits                                 |         |      | \$5,200    | \$5,371  |
| Number of retired members                               |         |      | 181        | 174      |
| **Includes 37 members who did not have service reported |         |      |            |          |



| 10-14 yrs | 15-19 yrs | 20-24 yrs | 2020<br>25-29 yrs | 30 or more yrs | Total   |
|-----------|-----------|-----------|-------------------|----------------|---------|
| \$352     | \$370     | \$387     | \$397             | \$397          | \$390   |
| \$4,229   | \$4,441   | \$4,643   | \$4,781           | \$4,769        | \$4,677 |
| 217       | 205       | 2,953     | 2,059             | 3,430          | 9,133   |

| 10-14 yrs | 15-19 yrs | 20-24 yrs | 2020<br>25-29 yrs | 30 or more yrs | Total   |
|-----------|-----------|-----------|-------------------|----------------|---------|
| \$367     | \$383     | \$391     | \$404             | \$405          | \$396   |
| \$4,399   | \$4,601   | \$4,696   | \$4,842           | \$4,859        | \$4,756 |
| 227       | 206       | 3,066     | 2,105             | 3,485          | 9,375   |

| 10-14 yrs | 15-19 yrs | 20-24 yrs | 2020<br>25-29 yrs | 30 or more yrs | Total   |
|-----------|-----------|-----------|-------------------|----------------|---------|
| \$385     | \$395     | \$401     | \$413             | \$409          | \$404   |
| \$4,624   | \$4,743   | \$4,812   | \$4,951           | \$4,905        | \$4,849 |
| 233       | 213       | 3,110     | 2,115             | 3,540          | 9,509   |

| 10-14 yrs | 15-19 yrs | 20-24 yrs | 2019<br>25-29 yrs | 30 or more yrs | Total   |
|-----------|-----------|-----------|-------------------|----------------|---------|
| \$396     | \$399     | \$402     | \$415             | \$412          | \$407   |
| \$4,751   | \$4,792   | \$4,823   | \$4,980           | \$4,941        | \$4,880 |
| 243       | 214       | 3,163     | 2,152             | 3,601          | 9,676   |

| 10-14 yrs | 15-19 yrs | 20-24 yrs | 2018<br>25-29 yrs | 30 or more yrs | Total   |
|-----------|-----------|-----------|-------------------|----------------|---------|
| \$404     | \$410     | \$404     | \$419             | \$415          | \$410   |
| \$4,847   | \$4,918   | \$4,850   | \$5,025           | \$4,983        | \$4,924 |
| 248       | 218       | 3,241     | 2,182             | 3,665          | 9,869   |

| 10-14 yrs | 15-19 yrs | 20-24 yrs | 2017<br>25-29 yrs | 30 or more yrs | Total   |
|-----------|-----------|-----------|-------------------|----------------|---------|
| \$405     | \$406     | \$407     | \$420             | \$420          | \$413   |
| \$4,862   | \$4,869   | \$4,884   | \$5,034           | \$5,044        | \$4,961 |
| 260       | 221       | 3,289     | 2,204             | 3,703          | 10,005  |

| 10-14 yrs. | 15-19 yrs. | 20-24 yrs. | 2016<br>25-29 yrs. | 30 or more yrs. | Total   |
|------------|------------|------------|--------------------|-----------------|---------|
| \$408      | \$410      | \$411      | \$423              | \$430           | \$419   |
| \$4,896    | \$4,918    | \$4,927    | \$5,075            | \$5,159         | \$5,031 |
| 266        | 230        | 3,345      | 2,237              | 3,746           | 10,160  |

| 10-14 yrs. | 15-19 yrs. | 20-24 yrs. | 2015<br>25-29 yrs. | 30 or more yrs. | Total   |
|------------|------------|------------|--------------------|-----------------|---------|
| \$426      | \$416      | \$415      | \$425              | \$436           | \$424   |
| \$4,896    | \$4,918    | \$4,927    | \$5,075            | \$5,159         | \$5,031 |
| 269        | 223        | 3,396      | 2,259              | 3,770           | 10,265  |

| 10-14 yrs. | 15-19 yrs. | 20-24 yrs. | 2014<br>25-29 yrs. | 30 or more yrs. | Total   |
|------------|------------|------------|--------------------|-----------------|---------|
| \$442      | \$424      | \$427      | \$434              | \$451           | \$438   |
| \$5,304    | \$5,087    | \$5,122    | \$5,205            | \$5,416         | \$5,251 |
| 269        | 217        | 3,360      | 2,252              | 3,824           | 10,243  |

| 10-14 yrs. | 15-19 yrs. | 20-24 yrs. | 2013<br>25-29 yrs. | 30 or more yrs. | Total   |
|------------|------------|------------|--------------------|-----------------|---------|
| \$446      | \$428      | \$434      | \$440              | \$467           | \$448   |
| \$5,356    | \$5,135    | \$5,208    | \$5,276            | \$5,607         | \$5,377 |
| 278        | 219        | 3,332      | 2,241              | 3,839           | 10,264  |

**PRINCIPAL PARTICIPATING EMPLOYERS**

**PRINCIPAL PARTICIPATING EMPLOYERS – PENSION PLAN CURRENT YEAR AND NINE YEARS AGO**

|                                 | As Of June 30, 2022 |             |                     | As Of June 30, 2013 |             |                     |
|---------------------------------|---------------------|-------------|---------------------|---------------------|-------------|---------------------|
|                                 | # of Covered        | Rank        | Percentage of Total | # of Covered        | Rank        | Percentage of Total |
| <b>Participating Government</b> | <b>Employees</b>    | <b>Rank</b> | <b>Pension Plan</b> | <b>Employees</b>    | <b>Rank</b> | <b>Pension Plan</b> |
| State of New Hampshire          | 10,563              | 1           | 21.70%              | 10,768              | 1           | 22.12%              |
| SAU 42 (Nashua School District) | 1,325               | 2           | 2.72%               | 1,285               | 2           | 2.64%               |
| Manchester School District      | 1,241               | 3           | 2.55%               | 1,218               | 3           | 2.50%               |
| City of Dover                   | 654                 | 4           | 1.34%               | 588                 | 8           | 1.21%               |
| Timberlane School District      | 635                 | 5           | 1.30%               | 661                 | 5           | 1.36%               |
| Concord School District         | 619                 | 6           | 1.27%               | 575                 | 10          | 1.18%               |
| City of Nashua                  | 619                 | 7           | 1.27%               | 616                 | 7           | 1.27%               |
| Merrimack School District       | 616                 | 8           | 1.27%               | 620                 | 6           | 1.27%               |
| Rochester School District       | 577                 | 9           | 1.19%               | 583                 | 9           | 1.20%               |
| Londonderry School District     | 548                 | 10          | 1.13%               | 0                   | 0           | 0.00%               |
| All Other *                     | 31,290              |             | 64.27%              | 31,774              |             | 65.26%              |
| <b>Total (461 Governments)</b>  | <b>48,687</b>       |             | <b>100.00%</b>      | <b>48,688</b>       |             | <b>100.00%</b>      |

\*As of June 30, 2022, "All Other" consisted of:

| Type                                    | Number     | Employees     |
|---|------------|---------------|
| City Governments                        | 11         | 2,480         |
| Town Governments & Related Entities     | 239        | 5,959         |
| County Governments & Related Entities   | 12         | 2,846         |
| School Districts & Administrative Units | 189        | 20,005        |
| <b>Total</b>                            | <b>451</b> | <b>31,290</b> |

**PRINCIPAL PARTICIPATING EMPLOYERS – OPEB PLAN CURRENT YEAR AND NINE YEARS AGO**

|                                 | As Of June 30, 2022 |             |                     | As Of June 30, 2013 |             |                     |
|---------------------------------|---------------------|-------------|---------------------|---------------------|-------------|---------------------|
|                                 | # of Covered        | Rank        | Percentage of Total | # of Covered        | Rank        | Percentage of Total |
| <b>Participating Government</b> | <b>Employees</b>    | <b>Rank</b> | <b>OPEB Plan</b>    | <b>Employees</b>    | <b>Rank</b> | <b>OPEB Plan</b>    |
| State of New Hampshire          | 2,163               | 1           | 23.68%              | 2,588               | 1           | 25.21%              |
| Manchester School District      | 440                 | 2           | 4.82%               | 510                 | 2           | 4.97%               |
| SAU 42 (Nashua School District) | 361                 | 3           | 3.95%               | 385                 | 3           | 3.75%               |
| City of Manchester              | 323                 | 4           | 3.54%               | 286                 | 5           | 2.79%               |
| City of Nashua                  | 289                 | 5           | 3.16%               | 245                 | 4           | 2.39%               |
| Concord School District         | 180                 | 6           | 1.97%               | 230                 | 6           | 2.24%               |
| City of Concord                 | 177                 | 7           | 1.94%               | 183                 | 7           | 1.78%               |
| Keene School District           | 160                 | 8           | 1.75%               | 165                 | 8           | 1.61%               |
| Portsmouth School District      | 128                 | 9           | 1.40%               | 143                 | 9           | 1.39%               |
| Town of Salem                   | 125                 | 10          | 1.37%               | 109                 | 10          | 1.06%               |
| All Other *                     | 4,787               |             | 52.41%              | 5,420               |             | 51.80%              |
| <b>Total (365 Governments)</b>  | <b>9,133</b>        |             | <b>100.00%</b>      | <b>10,264</b>       |             | <b>100.00%</b>      |

\*As of June 30, 2022, "All Other" consisted of:

| Type                                    | Number     | Employees    |
|---|------------|--------------|
| City Governments                        | 10         | 557          |
| Town Governments & Related Entities     | 132        | 880          |
| County Governments & Related Entities   | 12         | 268          |
| School Districts & Administrative Units | 195        | 3,082        |
| <b>Total</b>                            | <b>349</b> | <b>4,787</b> |

A full list of participating employers as of June 30, 2022 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)

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  
 B CEP 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  
 Boscaawen 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 E, 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  
 Edelweiss 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

|                                      |   |                                      |
|--------------------------------------|---|--------------------------------------|
| Kingston E, F, P                     | Nashua Housing Authority E                        | Rindge E, P, F                       |
| Laconia E, P, F                      | Nelson E  | Rochester E, P, F                    |
| Laconia Housing & Redevelopment E    | New Boston P                                      | Rockingham Planning Commission E     |
| Laconia Water Works E                | New Castle E, P, F                                | Rollinsford E, P                     |
| Lakes Region Mutual Fire Aid E, F    | New Durham E, P                                   | Rumney E, P                          |
| Lakes Region Planning Commission E   | New Hampton E, P, F                               | Rye E, P, F                          |
| Lancaster E, P, F                    | New Ipswich E, P                                  | Rye Water District E                 |
| Langdon P                            | New London E, P, F                                | Salem E, P, F                        |
| Lebanon E, P, F                      | New London-Springfield Water Precinct E           | Salem Housing Authority E            |
| Lee E, P, F                          | Newbury P   | Salisbury E                          |
| Lempster E                           | Newfields E, P                                    | Sanbornton E, P, F                   |
| Lincoln E, P                         | Newington E, P, F                                 | Sanbornton Public Library E          |
| Lisbon P                             | Newmarket E, P, F                                 | Sandown E, P, F                      |
| Litchfield E, P, F                   | Newmarket Housing Authority E                     | Sandown Public Library E             |
| Littleton E, P, F                    | Newport E, P, F                                   | Sandwich P, F                        |
| Littleton Public Library E           | Newton E, P                                       | Seabrook P, F                        |
| Littleton Water & Light Department E | New Hampshire Municipal Bond Bank E               | Shelburne E                          |
| Londonderry E, P, F                  | North Conway Water Precinct/ Fire Department E, F | Somersworth E, P, F                  |
| Loudon E, P, F                       | North Hampton E, P, F                             | Somersworth Housing Authority E      |
| Lower Bartlett Water Precinct E      | Northfield E, P                                   | South Hampton P                      |
| Lyme E, P                            | Northumberland E, P                               | Southern NH Planning Commission E    |
| Lyndeborough 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           |   | Tuftonboro E, P, F                   |
|                                      |   | Unity E                              |



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

SAU 42 E, T  
SAU 44 E, T  
SAU 46 E, T  
SAU 48 E, T  
SAU 50 E, T  
SAU 53 E, T  
SAU 58 E  
SAU 67 E, T  
SAU 70 E, T

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