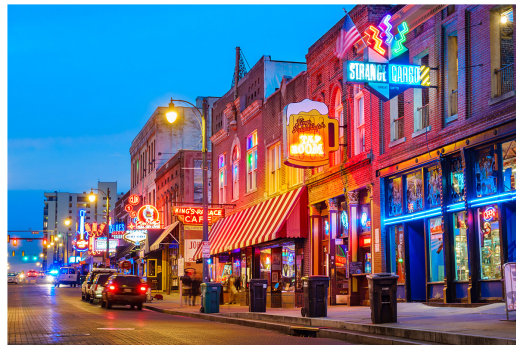


TENNESSEE CONSOLIDATED RETIREMENT SYSTEM

A Program of the Tennessee Treasury Department | A Component Unit of the State of Tennessee



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



Prepared by:
State of Tennessee Department of Treasury
502 Deaderick Street
Nashville, TN 37243-0201
615-741-7063
treasury.tn.gov/tcrs

David H. Lillard, Jr., State Treasurer
Jamie Wayman, TCRS Director



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Treasury Department, December 2020, Authorization #309209.
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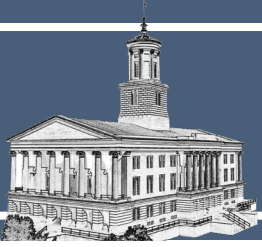
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Introduction

Chairman of the Board's Letter

Professional Awards

Letter of Transmittal

Administration and Mission

The Council on Pensions and Insurance

The Board of Trustees

Professional Consultants

Treasury Department Executive Staff

Organizational Chart





State of Tennessee

DAVID H. LILLARD, JR.
STATE TREASURER615.741.2956
David.Lillard@tn.govTREASURY DEPARTMENT
STATE CAPITOL
Nashville, Tennessee 37243-0225

December 14, 2020

Dear Members of the Tennessee Consolidated Retirement System:

It is my pleasure to submit this annual financial report of the Tennessee Consolidated Retirement System. This is the thirty-third consecutive year that the financial report is being submitted to the Government Finance Officers Association for review. All previous reports have received the Certificate of Achievement for Excellence in Financial Reporting.

Administration: TCRS manages the plan to secure the financial future of its more than 535,000 active, inactive and retired members. TCRS remains financially strong and well-funded. TCRS has been recognized as one of the top three best-funded pension plan in the country. TCRS paid a total of \$2.75 billion to our 146,382 members in fiscal year 2020, over 92% of whom remain in Tennessee. Members are provided comprehensive financial education and retirement counseling at no additional cost to the member. Information about the TCRS pension plans can be found at www.treasury.tn.gov/tcrs.

Investments: The 2020 fiscal year was challenging for all investors and TCRS portfolio experienced a gain of 4.94 percent with an annualized gain of 8.87 percent for the ten-year period. The 2020 results placed TCRS in the top 10% of peers for the period. The ten-year return exceeded the actuarially required rate of return and the portfolio was still managed in a manner to protect capital in an adverse environment.

Financial Soundness of the Plan: TCRS is considered one of the best-funded public pension plans in the nation. All three national ratings agencies: S&P, Moody's, and Fitch, recognize Tennessee for fully funding its annual actuarially-determined contribution every year since 1972.

The General Assembly, the Board of Trustees and the TCRS staff have worked diligently to provide the best possible management of the system, invest the system assets in a prudent manner without undue risk, fund the system on an actuarially-strong basis and provide the best possible services to the members in the system.

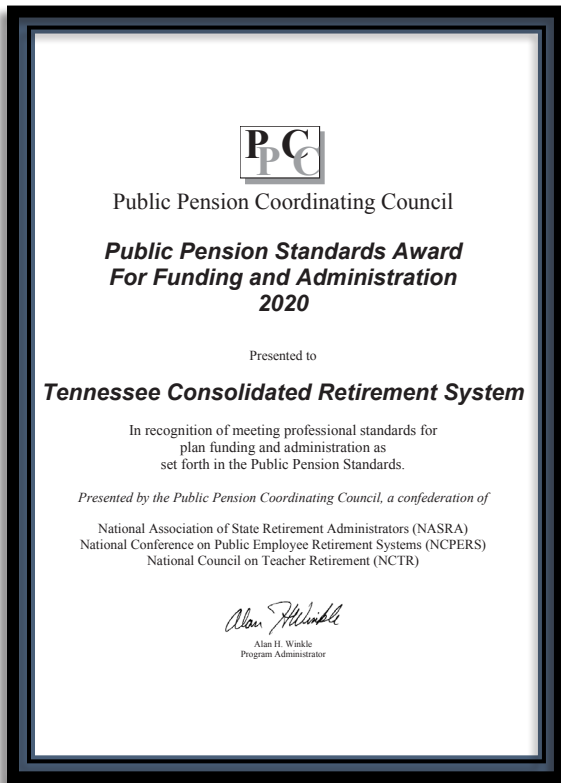
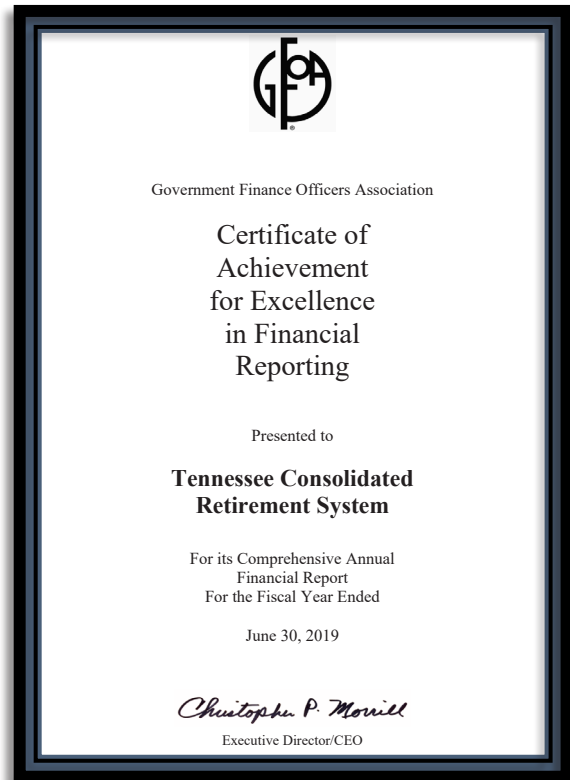
Sincerely,

A handwritten signature in blue ink, appearing to read "David H. Lillard, Jr.".David H. Lillard, Jr., State Treasurer
Chairman of the Board



**CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE
IN FINANCIAL REPORTING**

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Tennessee Consolidated Retirement System (TCRS) for our Comprehensive Annual Financial Report for the fiscal year ended June 30, 2019. This was the 32nd consecutive year that TCRS has achieved this prestigious award.



PUBLIC PENSION STANDARDS AWARD

The Tennessee Consolidated Retirement System (TCRS) was awarded a Public Pension Standards Award for our Comprehensive Annual Financial Report for the fiscal year ended June 30, 2019. This prestigious award was presented by the Public Pension Coordinating Council, a confederation of the National Association of State Retirement Administrators (NASRA), the National Conference on Public Employee Retirement Systems (NCPERS), and the National Council on Teacher Retirement (NCTR). TCRS received the award in recognition of meeting professional standards for plan funding and administration as set forth in the Public Pension Standards.



STATE OF TENNESSEE
TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
15th FLOOR ANDREW JACKSON BUILDING
502 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-0201

DAVID H. LILLARD, JR.
STATE TREASURER

JAMIE WAYMAN
DIRECTOR

December 14, 2020

Board of Trustees
Tennessee Consolidated Retirement System
Nashville, TN 37243

Ladies and Gentlemen:

We are pleased to present to you the Tennessee Consolidated Retirement System (TCRS) comprehensive annual financial report for the fiscal year ended June 30, 2020. Responsibility for the accuracy of the data and the fairness and completeness of this presentation, including all disclosures, rests with the management of TCRS. To the best of our knowledge and belief, the enclosed data is accurate in all material respects and is reported in a manner designed to provide a precise representation of the financial position and results of operations of the system.

This report has been prepared in accordance with generally accepted accounting principles as promulgated or adopted by the Governmental Accounting Standards Board and the American Institute of Certified Public Accountants. Specific accounting treatments are detailed in the Notes to the Financial Statements found in the Financial Section of this report. Management is responsible for establishing and maintaining internal controls for TCRS. The accounting systems are designed to include internal controls to provide reasonable assurances regarding safekeeping of assets and the reliability of financial records. These internal controls have been created to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements. The concept of reasonable assurance recognizes that first, the cost of a control should not exceed the benefits likely derived, and second, the valuation of the cost and benefits requires estimates and judgments by management. By statute, the Comptroller of the Treasury serves as the independent auditor for the system.

For additional discussion regarding financial information, please review Management's Discussion and Analysis located in the Financial Section of this report.

PROFILE OF TCRS

TCRS was established in 1972 with the consolidation of seven separate retirement systems for state employees, public higher education institution employees, public school teachers and employees of political subdivisions electing to participate in TCRS. The State of Tennessee is responsible for the pension benefits of state employees and higher education employees and funds a significant portion of the retirement liability for teachers through the Basic Education Program. Each of the 575 participating political subdivisions is responsible for the pension benefits of its employees. TCRS is a qualified pension plan under Section 401(a) of the Internal Revenue Code. As such, the system is exempt from federal income taxation on its investment earnings. Since January 1, 1987, member contributions have been tax deferred under Section 414(h) of the Internal Revenue Code.

(continued)



Beginning July 1, 2014, new hire state employees and K-12 teachers participate in the hybrid retirement plan. The plan combines components of a defined benefit plan through TCRS and a defined contribution plan through the state's deferred compensation program. The structure was designed with cost and unfunded liability controls.

TCRS was established as a retirement program for the public employees of Tennessee. A variety of services are provided for the membership including: investing assets; counseling of rights and benefits; publishing newsletters, booklets, pamphlets and financial statements; processing deductions for retiree insurance programs and federal income tax; calculating death, disability and retirement benefits; and processing refund and prior service requests.

ECONOMIC CONDITION

Funding of TCRS is provided through employee and employer contributions plus earnings from the invested assets. A standard actuarial "advanced funding" method is used to provide for the accumulation of assets to fund the cost of retirement, disability and death benefits provided by the system. The funding objective of TCRS is being met as the state and political subdivisions continue to make contributions to the plan at the rates established by the Board of Trustees. The Board is utilizing a strong actuarial method and has adopted reasonable actuarial assumptions for the determination of the appropriate employer contribution rates.

An actuarial valuation of TCRS is performed by an independent actuarial firm annually to determine the funding requirements for the employers participating in TCRS. As of June 30, 2019, the latest valuation date, the legacy plan had the following funded ratios on a market value basis: state employees, 91.67 percent; K-12 teachers, 104.28 percent; and political subdivisions in aggregate 103.23 percent. As of June 30, 2019, the hybrid retirement plan had the following funded ratios on a market value basis: state employees, 122.36 percent and K-12 teachers, 123.07 percent. Experience studies are performed on a quadrennial basis. The results of the June 30, 2016 experience study have been incorporated into the June 30, 2018 actuarial valuation which produced employer contribution rates for the period July 1, 2019-June 30, 2020.

The TCRS is invested in the Tennessee Retiree Group Trust (TRGT). The TRGT portfolio is diversified among domestic and international stocks and bonds, real estate, private equity and short-term securities. A diversified portfolio is used to manage risk and to minimize significant exposure to unpredictable events. Staff consults with the TCRS general consultant periodically to determine the optimal, long-term mix of assets to best meet the plan's investment objectives. TCRS has adopted a conservative investment strategy that has yielded excellent returns with a low level of risks.

Because TCRS is a well-funded pension plan, volatility in investment income will cause employer contribution rates to fluctuate. Investment strategies have been adopted that somewhat reduce, but do not eliminate, this volatility. The investment market outlook continues to create significant challenges in meeting the 7.25 percent investment return assumed by TCRS. A premium will continue to be placed on security selection.

The current TCRS Investment Policy can be found at treasury.tn.gov/Retirement/Boards-and-Governance/Reporting-and-Investment-Policies. TCRS pension funds represent 99.4 percent of the TRGT. For fiscal year 2020, the TRGT investments provided a 4.94 percent rate of return. The annualized rate of return was 6.87 percent, 6.93 percent, and 8.87 percent over the trailing three, five, and ten years, respectively. For further information on investments of TRGT, please refer to the TRGT Financial Statements at www.treasury.tn.gov.

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AWARDS AND ACKNOWLEDGMENTS

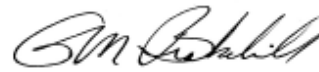
The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to Tennessee Consolidated Retirement System for its comprehensive annual financial report for the fiscal year that ended June 30, 2019. This was the 32nd consecutive year that the System has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements. The GFOA Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

TCRS is also the recipient of the Public Pension Principles Achievement Award. This program, administered by the Public Pension Coordinating Council, recognizes the professional achievements of public employee retirement systems.

The dedicated effort of the Treasury Department team to assemble the information contained in this publication is hereby acknowledged with our sincerest appreciation. The report will be provided to state legislators, members of the Board of Trustees, state officials, participating employers and other interested parties.

A handwritten signature in cursive script that reads "Jamie Wayman".

Jamie Wayman
TCRS Director

A handwritten signature in cursive script that reads "Michael Brakebill".

Michael Brakebill
Chief Investment Officer



ADMINISTRATION

The State Treasurer is a constitutional officer elected every two years by a joint session of the General Assembly. He serves as the Chief Executive Officer of the Treasury Department, a part of the legislative branch of state government. The administration and operation of the Tennessee Consolidated Retirement System are among the primary responsibilities of the State Treasurer. In order to meet the statutory requirements and fiduciary responsibilities of administering TCRS, the Treasurer appoints two executive officers: the Director of TCRS and the Chief Investment Officer.

The Director of TCRS is responsible for the daily operation of the retirement system which includes providing counseling services for the active and retired members; issuance of payments to retired members, disabled members, beneficiaries of deceased members and refunds to terminated employees; enrollment of members; maintenance of member account balances and records; establishment of service credit and issuance of various publications to inform members of their rights and benefits.

The Chief Investment Officer is responsible for the investment and oversight of TCRS assets in accordance with statutory guidelines and the investment policies and strategies established by the Board of Trustees.

Other divisions within the Treasury Department, which support the operations of TCRS, include Information Systems, Accounting, Management Services, Financial Empowerment, Internal Audit, Financial Strategies and Analysis, Human Resources, and Communications. Through these divisions, data processing services, accounting services, records maintenance, control reviews and personnel services are provided.

The administrative budget of TCRS is subject to approval by the General Assembly and is part of the overall annual budget process of the State of Tennessee. Funding for the operation of TCRS is provided by three sources. The State of Tennessee is responsible for the operational cost associated with state employees and higher education employees. Local education agencies are responsible for the operational cost related to K-12 teachers. Political subdivisions are responsible for the operational cost associated with their employees.

MISSION

The mission of the TCRS is to provide superior services to constituents in a cost-effective manner through qualified personnel while maintaining the highest ethical standards. The mission is accomplished by TCRS in cooperation with the Board of Trustees, the Council on Pensions and Insurance and the TCRS membership through the following objectives:

- ❖ **Exemplary Service** — To provide accurate, courteous and prompt service to members of TCRS.
- ❖ **Benefit Standards** — To provide retirement coverage through TCRS, Social Security and personal savings vehicles which will allow public employees to maintain their standard of living after retirement.
- ❖ **Funding Standards** — To provide for the long-term funding of TCRS on an actuarial basis which will ensure that sufficient assets will be accumulated to pay the statutory benefits of current and future retirees.
- ❖ **Staffing** — To attract and retain professional, highly-trained staff in an atmosphere conducive to innovation, challenges and a high level of performance.
- ❖ **Research** — To continuously perform studies on pension issues and to compare the TCRS plan with other public and private pension systems.
- ❖ **Management** — To manage by leading, planning, organizing and controlling the operation of TCRS in a cost-effective manner for the benefit of members and Tennessee taxpayers utilizing personnel, technology and capital efficiently while providing the highest level of service.
- ❖ **Ethical Standards** — To maintain the highest ethical standards.
- ❖ **Investment Return** — To obtain the highest available return on investments consistent with the preservation of principal while maintaining sufficient liquidity to react to the changing environment and to pay benefits when due.



THE COUNCIL ON PENSIONS AND INSURANCE

Created as a legislative oversight committee, the Council on Pensions and Insurance develops, recommends and establishes pension and retirement standards and maintains a progressive state policy on retirement. Additionally, the Council reviews legislation affecting state-provided insurance programs for both active and retired members of the Tennessee Consolidated Retirement System.

The Council periodically reviews Tennessee's retirement and state-provided insurance provisions and recommends changes in state law as deemed necessary. Since its creation, the Council has continuously performed studies and comparisons of other pension systems, including those of other states, private industry and the federal government's Social Security program. All proposed legislation affecting Tennessee's retirement laws must be reviewed by the Council before the legislature may take action. The Council is authorized to prepare and propose amendments

which are then forwarded to the standing committees. Information regarding the actuarial cost or impact of proposed legislation is provided by the Council to the other members of the legislature. The staff of the TCRS also serves as staff to the Council.

The voting membership of the Council consists of the Speaker of each house of the General Assembly; the officers of the House and the Senate Committees on Finance, Ways and Means; and three additional members of each finance committee. The Speaker of the Senate may designate a member of the Senate and the Speaker of the House of Representatives may designate a member of the House to serve as alternates to vote or otherwise act at Council meetings in absence of the respective speaker. Nonvoting members include the Commissioner of Human Resources, the Commissioner of Finance and Administration, the Comptroller of the Treasury, the State Treasurer and the Director of TCRS.

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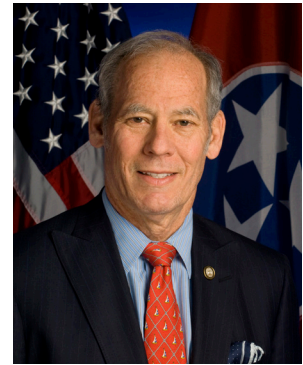
NON-VOTING MEMBERS



David H. Lillard, Jr.
State Treasurer



Jamie Wayman
TCRS Director



Justin Wilson
Comptroller of the Treasury



Juan Williams
*Commissioner of
Human Resources*



Butch Eley
*Commissioner of
Finance and Administration*

(continued)



VOTING MEMBERS - SENATORS



**Lieutenant Governor
Randy McNally**
Speaker of the Senate



**Senator
Todd Gardenhire**



**Senator
Brenda Gilmore**



**Senator
Jack Johnson**



**Senator
Joey Hensley**
*Finance, Ways and Means
Second Vice-Chair*



**Senator
John Stevens**
*Finance, Ways and Means
First Vice-Chair*



**Senator
Paul Bailey**
Speaker's Designee



**Senator
Bo Watson**
*Council Chair
Finance, Ways and Means Chair*

(continued)



VOTING MEMBERS - REPRESENTATIVES



**Speaker
Cameron Sexton**
House of Representatives



**Representative
Patsy Hazlewood**
*Finance, Ways and Means
Vice-Chair*



**Representative
Gary Hicks**
*Finance, Ways and Means
Sub-Committee Chair*



**Representative
Brandon Ogles**



**Representative
William Lamberth**



**Representative
Rick Staples**



**Representative
Susan Lynn**
*Council Vice-Chair
Finance, Ways & Means Chair*



THE BOARD OF TRUSTEES

The Tennessee Consolidated Retirement System Board of Trustees is responsible for the general administration and proper operation of TCRS within the requirements and provisions of state statute (T.C.A., Title 8, Chapters 34-37). The 20-member Board meets quarterly and is subject to the call of the chair for special meetings. Nine voting members constitute a quorum and nine affirmative votes are needed for decision making.

The Board consists of nine ex-officio members, nine representatives of the active TCRS membership and two representatives for retirees. Ex-officio members include the chair and vice-chair of the Legislative Council on Pensions and Insurance (as nonvoting members), the Commissioner of Human Resources, the Commissioner of Finance and Administration, the Comptroller of the Treasury, the Secretary of State and the Administrative Director of the Courts. In addition, the State Treasurer sits as Chair of the Board and the Director of TCRS serves as Secretary.

Employee representation consists of three teachers, one from each grand division of the state; two state employees from departments other than those represented by ex-officio members; one public safety officer and three representatives of local governments. Retiree representation includes a retired teacher and a retired state employee.

Three teachers and one retired teacher are selected for three-year terms by the Speaker of the Senate and the Speaker of the House of Representatives. State employees elect two representatives who also serve three-year terms.

One representative is appointed for a two-year term by each of the following organizations: The Tennessee County Services Association, the Tennessee Municipal League and the Tennessee County Officials Association. The public safety representative and the state retiree representative are appointed by the Governor. All employee representatives must be vested members of TCRS.

(continued)



EX-OFFICIO MEMBERS



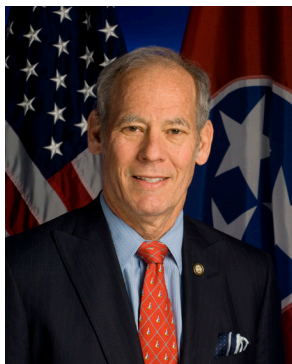
David H. Lillard, Jr.
State Treasurer



Jamie Wayman
TCRS Director



Tre Hargett
Secretary of State



Justin Wilson
Comptroller of the Treasury



**Senator
Bo Watson**
Council Chair



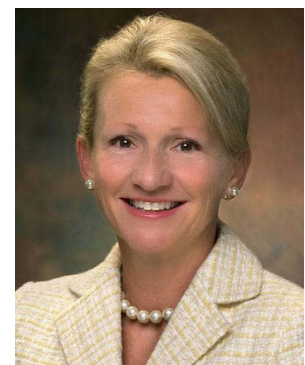
**Representative
Susan Lynn**
Council Vice-Chair



Juan Williams
*Commissioner of
Human Resources*



Butch Eley
*Commissioner of
Finance and Administration*



Deborah Taylor-Tate
*Administrative Director
of the Courts*

(continued)



ELECTED OR APPOINTED MEMBERS



Michael Barker
Retired Teacher
Term Expires:
June 30, 2022



Johnny Bohanan
Public Safety
Term Expires:
June 30, 2022



Wendell Cheek
State Employee
Term Expires:
June 30, 2022



Tim Ellis
Tennessee
Municipal League
Term Expires: June 30, 2022



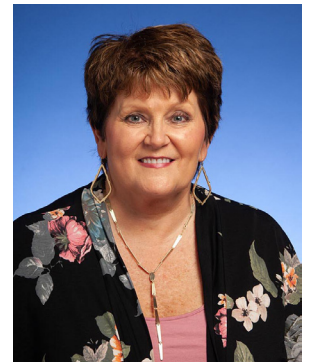
Bill Kemp
Tennessee County
Officials Association
Term Expires:
June 30, 2022



Alfred Laney
Retired State Employee
Term Expires:
June 30, 2020



Kelly Littleton-Brewster
East Tennessee Teacher
Term Expires:
June 30, 2022



Patsy Moore
West Tennessee Teacher
Term Expires:
June 30, 2020



Paula Shaw
State Employee
Term Expires:
June 30, 2022



Robert Wormsley
Tennessee County
Services Association
Term Expires: June 30, 2022



PROFESSIONAL CONSULTANTS

Independent professional consultants are appointed by the Board of Trustees to advise the Board and the TCRS staff on investment, medical and actuarial issues. Service fees related to investment professionals may be found on pages 65-67.

GENERAL INVESTMENT CONSULTANT

An investment consultant is employed to assist in the long-term financial planning process, to evaluate various investment strategies, to measure investment performance, to determine whether the system's objectives are being met, to research investment proposals regarding the use of new asset classes or variations of existing asset classes and to provide investment information on various issues which may arise.

Margaret Jadallah
Verus
San Francisco, California

PRIVATE EQUITY AND STRATEGIC LENDING CONSULTANT

Thomas Martin
Aksia
San Diego, California

REAL ESTATE INVESTMENT CONSULTANT AND ADVISORS

The real estate consultant provides general market advice relative to real estate, measures performance of real estate properties, assists in the formulation of policy and assists in the selection of real estate advisors.

Martin Rosenberg
The Townsend Group
Cleveland, Ohio

The real estate investment advisors identify prospective real estate transactions and provide asset management services.

Chris Conklin
RREEF America LLC
Chicago, Illinois

Tony Ferrante
Heitman
Chicago, Illinois

Christine M. Mullis
L&B Realty Advisors, LLP
Dallas, Texas

Alec Burleigh
AEW Capital Management L.P.
Boston, Massachusetts

Daniel Valpano
J.P. Morgan Investment Management, Inc.
New York, New York

(continued)

**INTERNATIONAL EQUITY INVESTMENT MANAGERS**

The international equity investment managers are responsible for purchasing stock of companies domiciled in foreign countries as set out in the investment policy.

Jenny Chou
TimesSquare Capital Management
New York, New York

Thomas Clancy
Fiera Capital
Boston, Massachusetts

Chris Moore
WCM Asset Management
Laguna Beach, California

Greg Cassano
TT International
New York, New York

Jill Farrell
American Century Investments
Kansas City, Missouri

Jane Henderson
Walter Scott & Partners, Ltd.
Edinburgh, Scotland, UK

Brett Peven
Pzena Investment Management
New York, New York

William Bardeen
PanAgora Asset Management, Inc.
Boston, Massachusetts

Thomas Leventhorpe
J.P. Morgan Asset Management
New York, New York

Ben Kottler
Marathon Asset Management
London

Todd Rittenhouse
Mondrian Investment Partners
Philadelphia, Pennsylvania

Adam Waclawsky
Acadian Asset Management
Boston, Massachusetts

MASTER CUSTODIAN BANK

The Master Custodian bank settles all financial investment transactions and provides custody services for TCRS assets.

Gary Lane
State Street Corporation
Boston, Massachusetts

THE MEDICAL ADVISORS

The Tennessee Consolidated Retirement System contracts with the University of Massachusetts Medical School (UMass) to serve as the Medical Advisor. UMass Medical School evaluates applications for disability retirement to determine whether the applicants are totally and permanently disabled and unable to engage in gainful employment. Additionally, UMass Medical School reviews medical data submitted by disabled retirees who are subject to periodic evaluation.



CONSULTING ACTUARY

An independent consulting firm performs an actuarial valuation every year to determine the funding status of the TCRS and recommend employer contribution rates. The actuary also conducts an experience study every four years to evaluate and adjust actuarial assumptions and methods.

Justin Thacker
Findley, Inc.
Brentwood, Tennessee

OTHER PROFESSIONAL SERVICES

State statute provides that the state Attorney General and Reporter will be the legal advisor of the Board and that the Office of the Comptroller of the Treasury will conduct an annual audit of the TCRS. These officers are as follows:

Herbert Slatery, III
Attorney General/Reporter
Nashville, Tennessee

Justin P. Wilson
Comptroller of the Treasury
Nashville, Tennessee



TREASURER’S OFFICE

State Treasurer David H. Lillard, Jr., JD, LL.M.
 Chief Operating Officer Mary Jo Price, JD
 Deputy Chief Operating Officer Kevin Bradley, CPA, CGFM, AAP, CGMA
 Communications Director Shelli King
 Director, Legislative and Agency Affairs Roy West
 Executive Assistant to the Treasurer Heather Szczepczenski

TCRS INVESTMENTS

Chief Investment Officer Michael Brakebill, CFA, CAIA
 Assistant CIO and Director of Cash Management Tim McClure, CTP, CGFM, CFP
 Equity Director Carrie Green, CFA
 Fixed Income Director Thomas Kim, CFA
 Real Estate Director J.P. Rachmaninoff, CPA
 Private Equity Director Daniel Crews, CFA

RETIREMENT ADMINISTRATION

TCRS Director Jamie Wayman, CPA, CEBS
 TCRS Assistant Director Erica Nale, CEBS
 Administrator of Old Age and Survivors Insurance Mary Griffin, JD
 Senior Director of Financial Empowerment Mary Beth Franklyn
 Director of Outreach Drew Freeman
 Assistant Director of Employer Reporting and Customer Service Altovisse Robertson

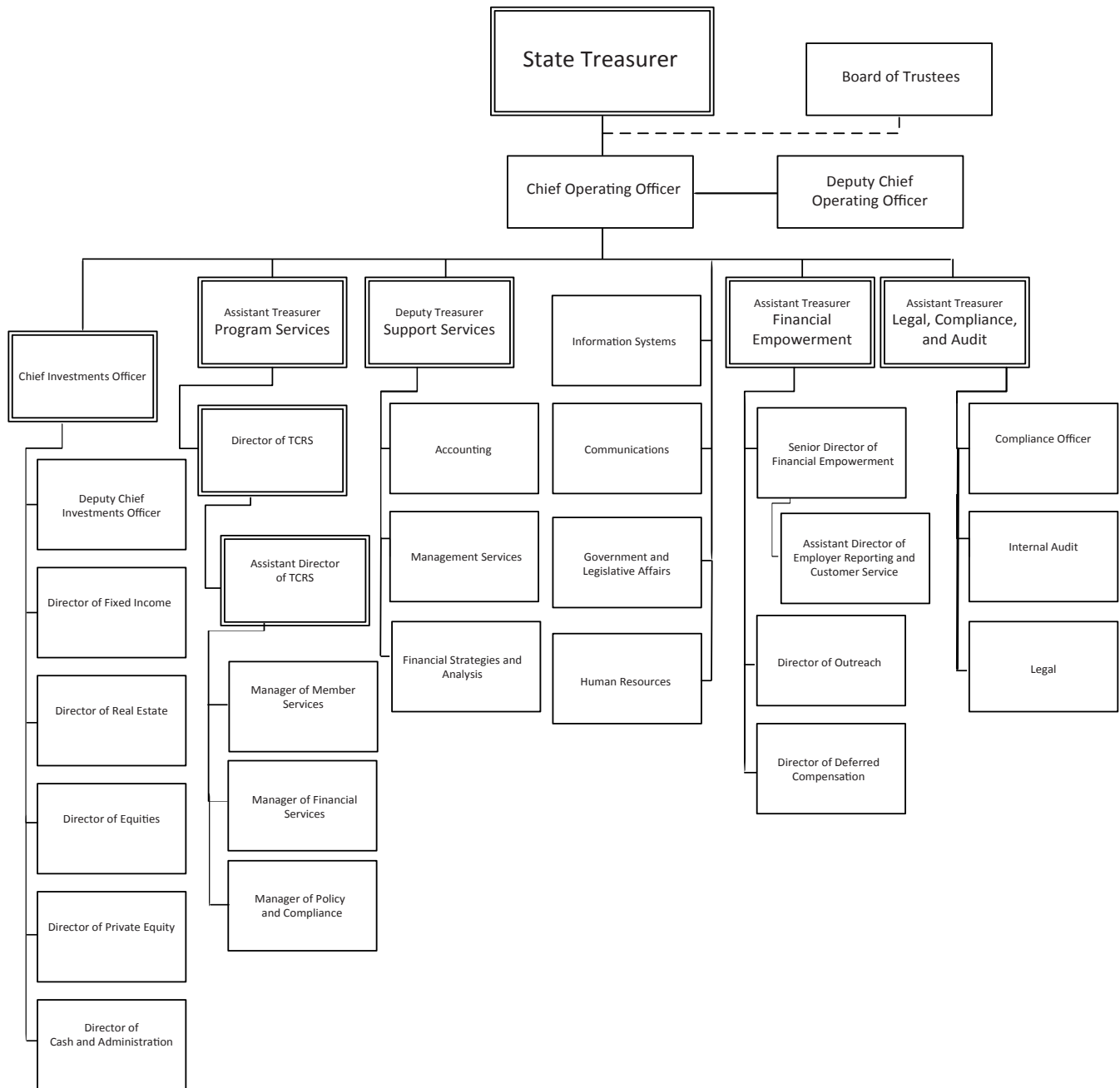
TREASURY DIVISIONS

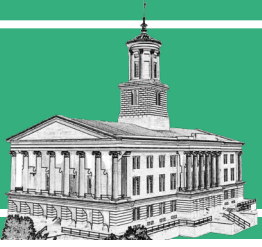
Deputy Treasurer, Support Services Rick DuBray, CPA
 Assistant Treasurer, Financial Empowerment Ashley Nabors
 Assistant Treasurer, Legal, Compliance and Audit Alison Cleaves, JD
 Assistant Treasurer, Program Services Steve Summerall, CEBS
 Director of Compliance Jennifer Selliers, CCEP
 Director of Deferred Compensation Hunter Bethea
 Director of Accounting Brian Derrick, CPA
 Deputy Director of Accounting Connie Gibson, CPA
 Director of Management Services Kerry Hartley, CPA

*The Treasurer is housed on the 1st floor of the State Capitol Building.
 Divisions are housed on the 13th, 14th and 15th floors of the Andrew Jackson Building.*



ORGANIZATIONAL CHART





Financial Section

Independent Auditor's Report

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JUSTIN P. WILSON
Comptroller

JASON E. MUMPOWER
Deputy Comptroller

Independent Auditor's Report

Members of the General Assembly
Members of the Board of Trustees
The Honorable David H. Lillard, Jr., Treasurer

Report on the Financial Statements

We have audited the accompanying statement of fiduciary net position of the Tennessee Consolidated Retirement System, pension trust funds of the State of Tennessee, as of June 30, 2020, the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, which collectively comprise the Tennessee Consolidated Retirement System's basic financial statements.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express

(continued)



no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion. Tennessee statutes, in addition to audit responsibilities, entrust certain other responsibilities to the Comptroller of the Treasury. Those responsibilities include serving as a member of the board of trustees of the Tennessee Consolidated Retirement System. We do not believe that the Comptroller's service in this capacity affected our ability to conduct an independent audit of the Tennessee Consolidated Retirement System.

Opinion

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

Emphasis of Matter

As discussed in Note A, the financial statements present only the Tennessee Consolidated Retirement System, pension trust funds, and do not purport to, and do not, present fairly the financial position of the State of Tennessee as of June 30, 2020, and the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

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

Other Information

Our audit was conducted for the purpose of forming an opinion on the basic financial statements as a whole. The accompanying financial information, listed as supporting schedules in the table

(continued)



of contents, is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from, and relates directly to, the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 14, 2020, on our consideration of the Tennessee Consolidated Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, and contracts, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on 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 Tennessee Consolidated Retirement System's internal control over financial reporting and compliance.

A handwritten signature in cursive script that reads "Katherine J. Stickel".

Katherine J. Stickel, CPA, CGFM, Director
Division of State Audit
December 14, 2020



The management of the Tennessee Consolidated Retirement System (TCRS) provides this discussion and analysis as an overview of the TCRS' financial activities for the fiscal year ended June 30, 2020. This section should be read in conjunction with the Independent Auditor's Report, the audited financial statements, and the accompanying notes. The financial statements, notes and this discussion are the responsibility of management.

FINANCIAL HIGHLIGHTS

- The net position for the TCRS plans (total assets minus total liabilities) at June 30, 2020 was \$53.3 billion, increasing \$1.2 billion (2.3 percent) from the plan net position at June 30, 2019. The net position is restricted for future benefit obligations. This increase in plan net position is mainly due to an increase in contribution rates.
- Net investment income for fiscal year 2020 was \$2.5 billion. During fiscal year 2020, the TCRS received a time-weighted rate of return on its portfolio of 4.94 percent, compared to 7.54 percent for fiscal year 2019.
- Contribution revenue for fiscal year 2020 totaled \$1.5 billion, representing an increase of 2.2 percent compared to fiscal year 2019.
- Total benefits and refunds paid for fiscal year 2020 were \$2.8 billion, representing an increase of 4.2 percent over fiscal year 2019 total benefits and refunds paid of \$2.7 billion. The growth is primarily due to the retiring members' benefits exceeding the benefits of long-term retired members whose benefits ceased due to death. Additionally, a 1.9 percent cost of living adjustment was given in July 2019.
- Total administrative expenses for fiscal year 2020 were \$19.2 million, representing a decrease of 3.3 percent from fiscal year 2019 administrative expenses of \$19.9 million

OVERVIEW OF THE FINANCIAL STATEMENTS

The TCRS financial statements consist of the *Statement of Fiduciary Net Position*, the *Statement of Changes in Fiduciary Net Position*, and the *Notes to the Financial Statements*. In addition, *Required Supplementary Information* and the *Notes to the Required Supplementary Information* are presented, which includes this *Management's Discussion and Analysis*. These financial statements, notes to the financial statements and required supplementary information were prepared in accordance with GASB Statement No. 67, *Financial Reporting for Pension Plans*. Collectively, this information presents the combined net position held in trust for pensions for each of the plans administered by TCRS as of June 30, 2020.

The *Statement of Fiduciary Net Position* and the *Statement of Changes in Fiduciary Net Position* report information about the fiduciary net position (total assets in excess of total liabilities) as of the end of the fiscal year and the changes in the fiduciary net position during the fiscal year. These statements include all assets and liabilities using the accrual basis of accounting. Under the accrual basis of accounting, the current year's revenues and expenses are included in the financial activity, regardless of when cash is received or paid. The difference between the total assets and total liabilities on the *Statement of Fiduciary Net Position*, or net position restricted for pensions, provides a measurement of the financial position of the TCRS as of the end of the fiscal year. The *Statement of Changes in Fiduciary Net Position* provides information on the activities that caused the financial position to change during the fiscal year. Over time, increases or decreases in the fiduciary net position of the TCRS are one indicator of whether the system's financial health is improving or deteriorating.



The *Notes to the Financial Statements* are essential to the reader's understanding of the financial statements and provide additional information regarding the TCRS, such as descriptions of the plans administered by the TCRS, including contribution and benefit provisions, and information about the accounting policies and investment activities.

ANALYSIS OF ASSETS, LIABILITIES AND PLAN NET POSITION

At June 30, 2020, the TCRS had a net position (total assets in excess of total liabilities) of \$53.3 billion, an increase of \$1.2 billion (2.3 percent) from \$52.1 billion at June 30, 2019. The assets of the TCRS consist primarily of investments. Condensed financial information comparing the TCRS' fiduciary net position for the past two fiscal years follows.

FIDUCIARY NET POSITION

	June 30, 2020	June 30, 2019	Increase (Decrease) Amount	Percentage Change
ASSETS				
Cash and cash equivalents	\$ 24,305,039	\$ 24,556,868	\$ (251,829)	(1.0)%
Cash collateral for securities on loan	1,761,910,539	3,689,733,021	(1,927,822,482)	(52.2)%
Member and employer receivables	108,359,508	110,393,746	(2,034,238)	(1.8)%
Investments	53,232,946,150	52,012,463,913	1,220,482,237	2.3%
Capital assets	13,178,457	16,892,344	(3,713,887)	(22.0)%
TOTAL ASSETS	<u>55,140,699,693</u>	<u>55,854,039,892</u>	<u>(713,340,199)</u>	(1.3)%
LIABILITIES				
Death benefits, refunds and other payables	29,235,566	29,675,714	(440,148)	(1.5)%
Cash collateral for securities on loan	1,761,910,539	3,689,733,021	(1,927,822,482)	(52.2)%
TOTAL LIABILITIES	<u>1,791,146,105</u>	<u>3,719,408,735</u>	<u>(1,928,262,630)</u>	(51.8)%
NET POSITION RESTRICTED FOR PENSIONS	<u>\$ 53,349,553,588</u>	<u>\$ 52,134,631,157</u>	<u>\$ 1,214,922,431</u>	2.3%

(continued)



MANAGEMENT'S DISCUSSION AND ANALYSIS
FOR THE YEAR ENDED JUNE 30, 2020 (CONTINUED)



ANALYSIS OF REVENUES AND EXPENSES

Employer contribution rates for the TCRS did increase during fiscal year 2020; therefore, the 2.2 percent increase in contributions from fiscal year 2019 to fiscal year 2020 was due to the increase in rates. Gross investment income for fiscal year 2020 decreased \$1.1 billion (29.8 percent) from fiscal year 2019 as a result of a lower rate of return in fiscal year 2020.

Investment expenses for fiscal year 2020 totaled \$107 million for a 31.0 percent decrease over fiscal year 2019. These expenses were split between portfolio management investment expenses of \$61.5 million and \$45.9 million in expenses attributed to the securities lending program. The TCRS investment portfolio earned a time-weighted rate of return of 4.94 percent and net investment income of \$2.5 billion.

Total benefits paid during the year ended June 30, 2020 were \$2.8 billion, an increase of 4.2 percent over fiscal year 2019 total benefits which can be attributed to an increase in the number of retirees and a 1.9 percent cost of living adjustment given in July 2019. Total refunds paid increased \$2.0 million, an increase of 4.7 percent, in fiscal year 2020 from fiscal year 2019. This increase is related to a higher average amount paid per refund issued.

Administrative expenses for the year ended June 30, 2020 were \$19.2 million, a decrease of 3.3 percent from fiscal year 2019 administrative expenses. This decrease can be attributed to reduced information system consultant expenses for system maintenance.

Condensed financial information comparing the TCRS' revenues and expenses for the past two fiscal years follows.

Revenue by Type

(expressed in thousands)

	<u>Year ended June 30, 2020</u>		<u>Year ended June 30, 2019</u>	
	<u>Amount</u>	<u>% of Total</u>	<u>Amount</u>	<u>% of Total</u>
Employee Contributions	\$ 380,167	9.4%	\$ 360,046	7.0%
Employer Contributions	1,114,994	27.6%	1,101,918	21.5%
Other Contributions	1,406	0.0%	2,479	0.1%
Net Investment Income	2,539,479	63.0%	3,655,645	71.4%
Total	<u>\$ 4,036,046</u>	<u>100.0%</u>	<u>\$ 5,120,088</u>	<u>100.0%</u>

Expenses by Type

(expressed in thousands)

	<u>Year ended June 30, 2020</u>		<u>Year ended June 30, 2019</u>	
	<u>Amount</u>	<u>% of Total</u>	<u>Amount</u>	<u>% of Total</u>
Benefit Payments	\$ 2,757,155	97.7%	\$ 2,645,419	97.7%
Refunds	44,753	1.6%	42,760	1.6%
Administrative	19,215	0.7%	19,874	0.7%
Total	<u>\$ 2,821,123</u>	<u>100.0%</u>	<u>\$ 2,708,053</u>	<u>100.0%</u>

(continued)



**TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
CHANGES IN FIDUCIARY NET POSITION**

	For the Year Ended June 30, 2020	For the Year Ended June 30, 2019	FY20 - FY19 Increase (Decrease) Amount	FY20 - FY19 Percentage Change
ADDITIONS				
Contributions	\$ 1,496,566,726	\$ 1,464,443,270	\$ 32,123,456	2.2%
Investment income	2,590,371,009	3,691,615,838	(1,101,244,829)	(29.8)%
Less: Investment expense	(61,495,465)	(58,468,800)	3,026,665	5.2%
Net income from securities lending activities	10,603,871	22,497,494	(11,893,623)	(52.9)%
Net investment income	2,539,479,415	3,655,644,532	(1,116,165,117)	(30.5)%
TOTAL ADDITIONS	4,036,046,141	5,120,087,802	(1,084,041,661)	(21.2)%
DEDUCTIONS				
Annuity benefits	2,752,436,072	2,639,940,918	112,495,154	4.3%
Death benefits	4,719,352	5,478,252	(758,900)	(13.9)%
Refunds	44,753,651	42,759,556	1,994,095	4.7%
Administrative expenses	19,214,635	19,874,342	(659,707)	(3.3)%
TOTAL DEDUCTIONS	2,821,123,710	2,708,053,068	113,070,642	4.2%
NET INCREASE (DECREASE)	1,214,922,431	2,412,034,734	(1,197,112,303)	(49.6)%
NET POSITION RESTRICTED FOR PENSIONS				
BEGINNING OF YEAR	52,134,631,157	49,722,596,423	2,412,034,734	4.9%
END OF YEAR	\$ 53,349,553,588	\$ 52,134,631,157	\$ 1,214,922,431	2.3%

(continued)



ECONOMIC FACTORS, FUTURE FUNDING PROVISIONS, OVERALL OUTLOOK

For the year ended June 30, 2020 the portfolio delivered a return of 4.94 percent which was below the actuarial assumed return of 7.25 percent. The fund gained 6.87 percent for the trailing three- year period and 8.87 percent for the trailing ten-year period. According to the Verus performance benchmark, the fund beat 90 percent of its peers for the trailing three-year period and 85 percent for the trailing ten-year period.

Strong absolute returns in U.S. fixed income (12.74 percent), private equity (6.17 percent) and U.S. equity (5.67 percent) were the most additive to the portfolio. International stock markets had the worst performance and emerging markets were down 10.8 percent, Canadian equities fell 5.0 percent, and developed international equities fell 2.74 percent.

An actuarial valuation was performed as of June 30, 2018 that determined the employer contribution rates for the period July 1, 2019 through June 30, 2020. An actuarial experience study to establish demographic and economic assumptions was completed effective June 30, 2016, was adopted by the Board of Trustees during fiscal year 2017 and was utilized in the June 30, 2018 actuarial valuation.

CONTACTING THE TCRS

This report is designed to provide a financial overview of the TCRS to state legislators, members of the Board of Trustees of the TCRS, state officials, participating employers, members of the TCRS and any other interested parties. Questions or requests for additional information regarding the financial information presented in this report may be addressed in writing to the Tennessee Treasury Department, Consolidated Retirement System, 502 Deaderick Street, Nashville, TN 37243-0201.



STATEMENT OF FIDUCIARY NET POSITION
JUNE 30, 2020



STATEMENT OF FIDUCIARY NET POSITION

JUNE 30, 2020

(Expressed in Thousands)

	Public Employee Retirement Plan	Teacher Retirement Plan	Teacher Legacy Pension Plan	Total
ASSETS				
Cash and cash equivalents	\$ 12,527	\$ 180	\$ 11,598	\$ 24,305
Cash collateral for securities on loan	908,161	13,013	840,737	1,761,911
Receivables				
Member receivable	9,106	5,619	16,577	31,302
Employer receivable	40,628	2,278	34,152	77,058
Total receivables	49,734	7,897	50,729	108,360
Investment in Tennessee Retiree Group Trust	27,438,439	393,157	25,401,350	53,232,946
Capital assets (net)	6,793	97	6,288	13,178
TOTAL ASSETS	28,415,654	414,344	26,310,702	55,140,700
LIABILITIES				
Accounts payable				
Death benefits and refunds payable	987	182	651	1,820
Federal withholding payable	9,268	133	8,580	17,981
Retiree insurance premium payable	4,802	69	4,445	9,316
Other	61	1	56	118
Cash collateral for securities on loan	908,161	13,013	840,737	1,761,911
TOTAL LIABILITIES	923,279	13,398	854,469	1,791,146
NET POSITION RESTRICTED FOR PENSIONS	\$ 27,492,375	\$ 400,946	\$ 25,456,233	\$ 53,349,554

See accompanying Notes to the Financial Statements.



STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2020



STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2020

(Expressed in Thousands)

	Public Employee Retirement Plan	Teacher Retirement Plan	Teacher Legacy Pension Plan	Total
ADDITIONS				
Contributions				
Member contributions	\$ 149,829	\$ 63,183	\$ 167,155	\$ 380,167
Employer contributions	735,610	25,617	353,767	1,114,994
Other contributions	1,406	0	0	1,406
Total contributions	886,845	88,800	520,922	1,496,567
Investment income	1,332,812	17,287	1,240,272	2,590,371
Less: Investment expense	(31,641)	(410)	(29,444)	(61,495)
Net income from investing activities	1,301,171	16,877	1,210,828	2,528,876
Securities lending activities				
Securities lending income	29,098	377	27,078	56,553
Less: Securities lending expense	(23,642)	(307)	(22,001)	(45,950)
Net income from securities lending activities	5,456	70	5,077	10,603
Net investment income	1,306,627	16,947	1,215,905	2,539,479
TOTAL ADDITIONS	2,193,472	105,747	1,736,827	4,036,046
DEDUCTIONS				
Annuity benefits	1,457,235	33	1,295,168	2,752,436
Death benefits	2,879	67	1,773	4,719
Refunds	23,186	3,595	17,972	44,753
Administrative expense	12,348	2,295	4,572	19,215
TOTAL DEDUCTIONS	1,495,648	5,990	1,319,485	2,821,123
NET INCREASE	697,824	99,757	417,342	1,214,923
FIDUCIARY NET POSITION RESTRICTED FOR PENSIONS				
BEGINNING OF YEAR	26,794,551	301,189	25,038,891	52,134,631
END OF YEAR	\$ 27,492,375	\$ 400,946	\$ 25,456,233	\$ 53,349,554

See accompanying Notes to the Financial Statements



The Tennessee Consolidated Retirement System (TCRS) is a public employee retirement system comprised of defined benefit pension plans covering Tennessee state employees, employees of the state's higher education systems, teachers, and employees of political subdivisions in Tennessee. The TCRS was established in 1972 by a statutory enactment of the Tennessee General Assembly. The provisions of the TCRS are codified in *Tennessee Code Annotated* Title 8, Chapters 34-37. In accordance with *Tennessee Code Annotated* Title 8, Chapter 34, Section 202, all funds invested, securities, cash, and other property of the TCRS are held in trust and can be expended only for the purposes of the trust. Although the assets for all pension plans within the TCRS are commingled for investment purposes, the assets of each separate plan may legally be used only for the payment of benefits to the members of that plan and for its administration, in accordance with the terms of the plan.

A: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting entity: The TCRS is included in the State of Tennessee financial reporting entity as a discretely presented component unit. The state appoints the majority of the TCRS Board of Trustees, its governing body, and approves its operating budget. The TCRS is presented as such in the *Tennessee Comprehensive Annual Financial Report*. That report is available on the state's website at www.tn.gov/finance/rd-doa/fa-accfin-cafr.html.

Measurement focus and basis of accounting: The accompanying financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) as prescribed by the Governmental Accounting Standards Board (GASB). The financial statements have been prepared using the flow of economic resources measurement focus and the accrual basis of accounting. Under the accrual method, revenues are recorded when earned, and expenses are recorded at the time liabilities are incurred regardless of the timing of related cash flows.

Plan member and employer contributions are recognized in the period of time for which they are due, in accordance with legal provisions. Benefits and refunds are recognized when due and payable in accordance with the terms of each plan.

Cash and cash equivalents: Cash and cash equivalents includes cash, cash management pools, and cash invested in a short-term, open-end mutual fund under the contractual arrangement for master custody services. Cash received by the TCRS, that cannot be invested immediately in securities or is needed for operations, is invested in the State Pooled Investment Fund sponsored by the State of Tennessee and administered by the State Treasurer. That report is available on the state's website at www.treasury.tn.gov.

Method used to value investments: Assets of the TCRS are invested in the Tennessee Retiree Group Trust (TRGT). A report of TRGT is available on the state's website at www.treasury.tn.gov. As of June 30, 2020, the TCRS owns 99.42 percent of the net asset value in the TRGT. The TRGT is not registered with the Securities and Exchange Commission (SEC) as an investment company. The State of Tennessee has not obtained a credit quality rating for the TRGT from a nationally recognized credit ratings agency. The fair value of investment positions in the TRGT is determined daily based on the fair value of the pool's underlying portfolio. Furthermore, the state had not obtained or provided any legally binding guarantees to support the value of participant shares during the fiscal year. There are no restrictions on the sale or redemption of shares.

Investments are reported at fair value. Securities traded on a national exchange are valued at the last reported sales price. Investment income consists of realized and unrealized appreciation (depreciation) in the fair value of investments and interest and dividend income. Interest income is recognized when earned. Securities and securities transactions are recorded in the financial statements on trade-date basis.

The fair value of assets of the TRGT held at June 30, 2020 represents the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. Assets held are categorized for

(continued)



fair value measurement within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

- Level 1 - Unadjusted quoted prices for identical assets or liabilities in active markets that can be accessed at the measurement date.
- Level 2 - Quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; assets or liabilities that have a bid-ask spread price in an inactive dealer market, brokered market and principal-to-principal market; and Level 1 assets or liabilities that are adjusted.
- Level 3 - Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments where fair value is measured using the net asset value (“NAV”) per share have no readily determinable fair value and have been determined to be calculated consistent with FASB principles for investment companies.

Where inputs used in the measurement of fair value fall into different levels of the hierarchy, fair value of the instrument in its entirety are categorized based on the lowest level input that is significant to the valuation. This assessment requires professional judgement and as such management developed a fair value committee that worked in conjunction with our custodian and investment professionals to make these valuations. All assets held were valued individually and aggregated into classes so to be represented in the table below.

Short-term securities generally include investments in money market-type securities reported at cost plus accrued interest.

Equity and equity derivative securities classified in Level 1 are valued using last reported sales prices quoted in active markets that can be accessed at the measurement date. Equity and equity derivative securities classified in Level 2 are securities whose values are derived daily from associated traded securities. Equity securities classified in Level 3 are valued with last trade data having limited trading volume.

US Treasury bills, bonds, notes and futures classified in Level 1 are valued using last reported sales prices quoted in active markets that can be accessed at the measurement date. Debt and debt derivative securities classified in Level 2 are valued using a bid-ask spread price from multiple independent brokers, dealers, or market principals, which are known to be actively involved in the market. Level 3 debt securities are valued using proprietary information, a single pricing source, or other unobservable inputs related to similar assets or liabilities.

Real estate investments classified in Level 3 are valued using the last valuations provided by external investment advisors or independent external appraisers. Generally, all direct real estate investments are appraised by a qualified independent appraiser(s) with the professional designation of Member of the Appraisal Institute (“MAI”), or its equivalent, every three (3) years beginning from the acquisition date of the property. The appraisals are performed using generally accepted valuation approaches applicable to the property type.

Investments in private mutual funds, traditional private equity funds, strategic lending funds and real estate funds that report using GAAP, the fair value, as well as the unfunded commitments, was determined using the prior quarter’s NAV, as reported by the fund managers, plus the current cash flows. These assets were then categorized by investment strategy. In instances where the fund investment reported using non-GAAP standards, the investment was valued using the same method, but was classified in Level 3.

(continued)



NOTES TO THE FINANCIAL STATEMENTS
JUNE 30, 2020 (CONTINUED)



INVESTMENTS MEASURED AT FAIR VALUE

As of June 30, 2020

Expressed in Thousands

Investments at Fair Value Level	GAAP Hierarchy Level 1	GAAP Hierarchy Level 2	GAAP Hierarchy Level 3	NAV	Total Investments
Government Agencies		\$ 173,464			\$ 173,464
Government Bonds	\$ 3,983,634	75,490			4,059,124
Government Inflation Indexed	29,688				29,688
Government Mortgage Backed		3,697,391	\$ 2,839		3,700,230
Government Asset Backed		113,167			113,167
Municipal Bonds		67,896	1,031		68,927
Commercial Mortgage Backed		333,729	161,067		494,796
Corporate Asset Backed Securities		261,844	566,104		827,948
Corporate Bonds		5,353,119	8		5,353,127
Corporate Equities	26,111,228		36,580		26,147,808
Preferred Stocks	66,578		15,163		81,741
Limited Partnership Units			700,514	\$ 6,565,195	7,265,709
Real Estate			3,027,251	1,246,301	4,273,552
Derivatives		417			417
TOTAL TRGT INVESTMENTS AT FAIR VALUE	\$ 30,191,128	\$ 10,076,517	\$ 4,510,557	\$ 7,811,496	52,589,698
Cash and Cash Equivalents					920,030
Cash Collateral on Loaned Securities					1,772,190
Investment Income Receivable					145,737
Derivatives Receivable					144,989
Investments Sold					174,217
TOTAL ASSETS OF THE TRGT					\$ 55,746,861

(continued)



The following table sets forth the additional disclosures of the TRGT’s investments, which are stated at fair value based on the net asset value “NAV” (expressed in thousands), as a practical expedient, reported by the investment managers or general partners:

Asset Classification	Strategy	Number of Funds	NAV	Remaining Life	Redemption Terms	Redemption Restrictions
Limited Partnerships	Traditional Private Equity and Strategic Lending	127	\$ 6,565,195	Various	N/A	Various transfer and sale restrictions
Real Estate	Real Estate Commingled Investments	27	\$ 1,246,301	N/A	N/A	Various transfer and sale restrictions

Traditional Private Equity and Strategic Lending: The private equity asset class is categorized into two component portfolios: traditional and strategic lending. Generally speaking, the types of private equity strategies include: venture capital, buyout, natural resource, secondary, special situations, tactical, structured credit, and high yield debt. The majority of these investments have an approximate life of 10 years or greater and are considered illiquid. During the life of the partnerships, distributions are received as underlying partnership investments are realized. Transfer or sale of the partnership interest are restricted over the life of the partnership. The TRGT has no plans to liquidate any of these investments.

Real Estate Commingled Investments: The real estate asset class is comprised of two different investment types: direct investments and commingled investments. A commingled investment is a pooled investment vehicle comprised of real estate investments that is overseen by an external investment manager or general partner. Generally speaking, the commingled real estate investment strategies include: office, retail, industrial, multi-family, and diversified. The majority of these investments have an approximate life of 10 years or greater and are considered illiquid. During the life of the pooled investment vehicle, distributions are received as underlying investments are realized. Transfer or sale of the interest are restricted over the life of the investment. The TRGT has no plans to liquidate any of these investments.

Capital assets: Capital assets consist of internally generated computer software, reported at historical cost less any applicable amortization. Capital assets are defined by the state as assets with an initial individual cost of \$5,000 or more and an estimated useful life in excess of two years. The computer software was valued at \$13.2 million at year end and is being amortized using the straight-line method over the ten-year estimated life of the system. The amortization expense for the current year was \$3.7 million.

(continued)



B: PLAN DESCRIPTIONS

Plan administration: The Tennessee Treasury Department, an agency in the legislative branch of state government, administers the plans of the TCRS.

At June 30, 2020, there were three defined benefit pension plans within the TCRS. The Public Employee Retirement Plan is an agent, multiple-employer defined benefit pension plan for state government employees and for political subdivisions electing to participate in the TCRS. The Teacher Legacy Pension Plan is a cost-sharing, multiple-employer defined benefit pension plan for teachers of local education agencies (LEAs). The Teacher Legacy Pension Plan closed to new membership on June 30, 2014, but will continue providing benefits to existing members and retirees. Beginning July 1, 2014, the Teacher Retirement Plan became effective for teachers employed by LEAs after June 30, 2014. The Teacher Retirement Plan is a separate cost sharing, multiple employer defined benefit pension plan.

The general administration and responsibility for proper operation of the TCRS plans are vested in a 20 member Board of Trustees, consisting of 18 voting members and two non-voting members. The board has nine ex-officio members, two of whom are non-voting. The seven voting ex-officio members are the State Treasurer, Secretary of State, Comptroller of the Treasury, Commissioner of Finance and Administration, Commissioner of Human Resources, Director of the TCRS, and the Administrative Director of the Courts. The two non-voting ex-officio members are the chair and vice-chair of the Legislative Council on Pensions and Insurance.

Three active teacher members, one from each grand division of the state, and a retired teacher member are selected for three year terms by the Speaker of the House of Representatives and the Speaker of the Senate. Two active state employee members, who are from departments other than those represented by ex-officio members, are elected by state employees for three year terms. A board member is appointed for a two year term by each of the following organizations: Tennessee County Services, Tennessee Municipal League, and the Tennessee County Officials Association. Two members, a public safety employee and a retired state employee, are appointed by the Governor for two year terms. All members must be vested members of the TCRS, except for ex-officio members.

Plan membership: At June 30, 2020 the membership of the pension plans consisted of the following:

	<u>Public Employee Retirement Plan</u>	<u>Teacher Retirement Plan</u>	<u>Teacher Legacy Pension Plan</u>	<u>Total</u>
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	113,553	25	52,921	166,499
Inactive Employees Entitled to But Not Yet Receiving Benefits	141,472	9,498	31,445	182,415
Active Plan Members	142,794	26,402	53,486	222,682
Total membership	<u>397,819</u>	<u>35,925</u>	<u>137,852</u>	<u>571,596</u>
Number of participating employers	624	144	144	768

Membership above includes all plans whether open or closed.

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Benefits provided: The TCRS provides retirement, disability, and death benefits. The benefits of the TCRS are established by state law (*Tennessee Code Annotated*, Title 8, Chapters 34-37). In general, the benefits may be amended prospectively by the General Assembly for employees becoming members of the TCRS after June 30, 2014. Amendments of benefits for employees becoming members before July 1, 2014 can be restricted by precedent established by the Tennessee Supreme Court.

Teacher Legacy Pension Plan

Members of the Teacher Legacy Pension Plan are eligible to retire at age 60 with 5 years of service credit or after 30 years of service credit regardless of age. Plan members are entitled to receive unreduced service retirement benefits, which are determined by a formula using the member's highest five consecutive year average compensation and the member's years of service credit. Service related disability benefits are provided regardless of length of service. Five years of service is required for non-service related disability eligibility. The service related and non-service related disability benefits are determined in the same manner as a service retirement benefit but are reduced 10 percent and include projected service credits. A variety of death benefits are available under various eligibility criteria. Member and beneficiary annuitants are entitled to automatic cost of living adjustments (COLAs) after retirement. A COLA is granted each July for annuitants retired prior to the 2nd of July of the previous year. The COLA is based on the change in the consumer price index (CPI) during the prior calendar year, capped at 3 percent, and applied to the current benefit. No COLA is granted if the change in the CPI is less than one-half percent. A one percent COLA is granted if the CPI change is between one-half percent and one percent.

Teacher Retirement Plan

Members of the Teacher Retirement Plan are eligible to retire at age 65 with 5 years of service credit or pursuant to the rule of 90 where age and years of service total 90. Plan members are entitled to receive unreduced service retirement benefits, which are determined by a formula using the member's highest five consecutive year average compensation and the member's years of service credit. Service related disability benefits are provided regardless of length of service. Five years of service is required for non-service related disability eligibility. The service related and non-service related disability benefits are determined in the same manner as a service retirement benefit but are reduced 10 percent and include projected service credits. A variety of death benefits are available under various eligibility criteria. Member and beneficiary annuitants are entitled to automatic cost of living adjustments (COLAs) after retirement. A COLA is granted each July for annuitants retired prior to the 2nd of July of the previous year. The COLA is based on the change in the consumer price index (CPI) during the prior calendar year, capped at 3 percent, and applied to the current benefit. No COLA is granted if the change in the CPI is less than one-half percent. A one percent COLA is granted if the CPI change is between one-half percent and one percent. The Teacher Retirement Plan includes provisions to control employer contributions and unfunded liabilities. As such, plan provisions are automatically changed when employer contributions and unfunded liabilities exceed statutory limits.

Public Employee Retirement Plan

For state employees, there are two major tiers of benefits and eligibility requirements. State employees becoming members before July 1, 2014 are eligible to retire at age 60 with 5 years of service credit or after 30 years of service credit regardless of age. State employees becoming members after June 30, 2014 are eligible to retire at age 65 with five years of service or pursuant to the rule of 90 where age and years of service total 90. Plan members are entitled to receive unreduced service retirement benefits, which are determined by a formula using the member's highest five consecutive year average compensation and the member's years of service credit. Service related disability benefits are provided regardless of length of service. Five years of service is required for non-service related disability eligibility. The service related and non-service related disability benefits are determined in the same manner as a service retirement benefit but are reduced 10 percent and include projected service credits. A variety of death benefits are available under various eligibility criteria. Member and beneficiary annuitants are entitled to automatic COLAs after retirement. A COLA is granted each July for annuitants retired prior to the 2nd of July of the previous

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year. The COLA is based on the change in the CPI during the prior calendar year, capped at 3 percent, and applied to the current benefit. No COLA is granted if the change in the CPI is less than one-half percent. A one percent COLA is granted if the CPI change is between one-half percent and one percent. There are additional classes of employees that include state judges, elected members of the general assembly, and public safety officers which have different benefit structures and eligibility requirements. These classifications represent an immaterial percentage of the state employee membership.

For political subdivision employees, there are various tiers of benefits and eligibility requirements. Each political subdivision adopts the benefit structure that the entity provides to its employees. Unreduced service retirement benefits are determined using a multiplier of the member's highest 5 consecutive year average compensation multiplied by the member's years of service credit. Plan members are eligible for service related disability benefits regardless of length of service. Five years of service is required for non-service related disability eligibility. The service related and non-service related disability benefits are determined in the same manner as a service retirement benefit but are reduced 10 percent and include projected service credits. A variety of death benefits are available under various eligibility criteria. If adopted as a benefit provision by the political subdivision, member and beneficiary annuitants are entitled to automatic COLAs after retirement. A COLA is granted each July for annuitants retired prior to the 2nd of July of the previous year. The COLA is based on the change in the CPI during the prior calendar year, capped at 3 percent, and applied to the current benefit. No COLA is granted if the change in the CPI is less than one-half percent. A one percent COLA is granted if the CPI change is between one-half percent and one percent. There are additional classes of employees, local judges, elected officials, and public safety officers, which may have different benefit structures and eligibility requirements. These classifications represent an immaterial percentage of the political subdivisions' membership.

Contributions: Pursuant to *Tennessee Code Annotated* Title 8, Chapter 37, the Board of Trustees adopted an actuarially determined contribution (ADC) for each participating employer, as recommended by an independent actuary following an actuarial valuation.

For the Teacher Legacy Pension Plan, LEAs are required by statute to contribute the ADC. The ADC is the estimated amount necessary to finance the costs of benefits earned by plan members during the year, the unfunded accrued liability, and the cost of administration. Teachers are required by statute to contribute 5 percent of salary. For the year ended June 30, 2020, the required ADC for LEAs was 10.63 percent of covered payroll.

For the Teacher Retirement Plan, LEAs are required by statute to contribute the greater of the ADC or 4 percent. The ADC is the estimated amount necessary to finance the costs of benefits earned by plan members during the year, the unfunded accrued liability, and the cost of administration. Teachers are required by statute to contribute 5 percent of salary. For the year ended June 30, 2020, the required ADC for LEAs was 2.03 percent of covered payroll while actual contributions were 4 percent of covered payroll.

For the Public Employee Retirement Plan, each governmental entity is required by statute to contribute the ADC except that the contribution rate for state employees hired after June 30, 2014 is the greater of the ADC or 4 percent. The ADC is the estimated amount necessary to finance the costs of benefits earned by plan members during the plan year, the unfunded accrued liability, and the cost of administration. For the year ended June 30, 2020, the required ADC varied for each participating employer, with approximately ninety-six percent of all employer rates less than twenty (20) percent. By statute, state employees hired before July 1, 2014 are noncontributory while employees hired after June 30, 2014 contribute 5 percent of salary. As adopted by the governmental entity, political subdivision employees may be noncontributory, contribute 2.5 percent of salary, or contribute 5 percent of salary.

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Reserves: The statute governing the Teacher Retirement Plan and certain employers in the Public Employee Retirement Plan provide for a minimum employer contribution rate of 4 percent. The statute further provides that the amount of the employer contributions in excess of the actuarially determined contribution rate is deposited into a stabilization reserve for each plan. The statute may be amended by the Tennessee General Assembly. Assets in the stabilization reserve are commingled for investment purposes and receive a pro rata share of investment earnings. The amount in the stabilization reserve is not considered in calculating the actuarially determined employer contribution rate for each plan. The statute provides that the assets in the stabilization reserve will be utilized should the actuarially determined contribution rate exceed 4 percent. In such case, the required employer contribution in excess of 4 percent will be transferred from the stabilization reserve to the account of the Teachers Retirement Plan or certain Public Employee Retirement Plan employers. By statute, the Board of Trustees may adopt a policy to suspend the deposits into the stabilization reserve in any given year when the stabilization reserve reaches a certain level that is determined by the board. If deposits are suspended, then the employer contribution will be the actuarially determined contribution rate for that year rather than the higher 4 percent. The board has not adopted a policy at this time.

From July 1, 2014, through June 30, 2018, the funds contributed to the stabilization reserves were held by TCRS in the pension trust fund. As of June 30, 2020, there was \$58,150,892 in the stabilization reserve on behalf of the Teachers Retirement Plan and \$53,455,341 in the various stabilization reserves on behalf of the Public Employee Retirement Plan held by TCRS. Effective July 1, 2018, all future stabilization reserve contributions are held in a separate trust outside of TCRS for the benefit of each employer that participates in the stabilization reserve trust. The amounts reflected in the Stabilization Reserve Trust can only be moved to the entity's pension trust at the direction of the entity (employer) with the approval of the Board of Trustees of the Pension Stabilization Reserve Trusts.

C: DEPOSITS AND INVESTMENTS

Statutory Authority: The Tennessee Retiree Group Trust (TRGT) was established in 2015 by a statutory enactment of the Tennessee General Assembly. The provisions of the TRGT are codified in *Tennessee Code Annotated* Title 8, Chapters 34-37. Pursuant to this statute the Tennessee Consolidated Retirement System (TCRS) and its Board of Trustees with the State Treasurer (Treasurer) as custodian, authorized by Section 8-37-104, *Tennessee Code Annotated* adopted this group trust for the purpose of pooling funds of TRGT with other assets in the custody of the Treasurer, solely for investment purposes. The assets invested consist exclusively of assets of exempt pension and profit-sharing trusts and individual retirement accounts, custodial accounts, retirement income accounts, governmental plans and tax-exempt trusts under the Internal Revenue Code of 1986 and Rev. Rul. 81-100, as modified by Rev. Ruls. 2004-67, 2008-40 and 2011-1 (referred to herein as "Retirement Assets"). The custodian shall be responsible for managing and directing the investment of the Group Trust Funds in the same manner as it invests funds of the TCRS. As of June 30, 2020, the TCRS owns 99.42 percent of the net asset value in the TRGT.

The TRGT is authorized to invest in securities in accordance with the investment policy of the TCRS. That policy allows the Trust to invest in bonds, debentures, preferred stock and common stock, real estate and in other good and solvent securities subject to the approval of the Board of Trustees, but further subject to the following statutory restrictions and provisions:

- a. The total sum invested in common and preferred stocks shall not exceed seventy-five percent (75 percent) of the total of the funds of the trust.
- b. The total sum invested in notes and bonds or other fixed income securities exceeding one year in maturity shall not exceed seventy-five percent (75 percent) of the total funds of the trust.
- c. Within the restrictions in (a) and (b) above, fifteen percent (15 percent) of the total of the funds of the retirement system may be invested in securities of the same kinds, classes, and investment grades as those otherwise eligible



for investment in various approved foreign countries. However upon action of the TCRS Board of Trustees with subsequent approval by the Council on Pensions and Insurance, limit has been authorized at an amount not to exceed twenty-five percent (25 percent).

d. Within the restrictions in (a) and (b) above, funds may be invested in Canadian securities which are substantially of the same kinds, classes and investment grades as those otherwise eligible for investment.

e. The total amount of securities loaned under a securities lending program cannot exceed thirty percent (30 percent) of total assets.

f. The total sum invested in alternative assets shall not exceed forty percent (40 percent) of the market value of total assets.

State statute also authorizes the TRGT to invest in forward contracts to hedge its foreign currency exposure and to purchase or sell domestic equity index futures contracts for the purpose of asset allocation relating to the domestic equity portfolio. The total amount of the financial futures contract obligation shall not exceed ten percent (10 percent) of the market value of the TRGT's total assets. Position sizes will be measured by notional amounts. Options will be measured in their notional equivalents.

Investment policy: The TRGT investment authority is established pursuant to *Tennessee Code Annotated* Title 8, Chapter 37. The statute provides the Board of Trustees with the responsibility to establish the investment policy of the TRGT. The investment policy may be amended by the board. The TRGT 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 by the TCRS. The following was the board's adopted asset allocation policy as of June 30, 2020:

Authorized Asset Class	Target Allocation
U.S. equity	31%
Canadian equity	2%
Developed market international equity	12%
Emerging market international equity	4%
Private equity	10%
U.S. fixed income	20%
Strategic lending	10%
Real estate	10%
Short-term securities	1%
Total	100%

Securities Lending: The TRGT is authorized to engage in securities lending agreements by Section 8-37-104(a)(6), *Tennessee Code Annotated* with the terms established in the investment policy whereby TRGT loans securities to brokers and dealers (borrower) and in turn, TRGT receives collateral as either cash or securities. TRGT pays the borrower interest on the collateral received and invests the collateral with the goal of earning a higher yield than the interest rate paid to the borrower. Loans are limited to no more than thirty percent (30%) of the market value of the total assets in the TRGT portfolio and provided further that such loans are secured by collateral. Securities

(continued)



received as collateral hereunder shall have a market value equal to at least one hundred two percent (102%) of the market value of the loaned domestic security or one hundred five percent (105%) of any foreign security. Cash received as collateral shall equal at least one hundred percent (100%) of the market value of the loaned securities and may be invested by or on behalf of the TRGT in any instrument the TRGT may be directly invested. Cash Collateral is held in the TRGT name and is not subject to custodial credit risk. During the year there were no violations of legal or contractual provisions by the TRGT.

The TRGT securities lending program is managed by a third party lending agent, Deutsche Bank AG. The TRGT may loan any debt or equity securities which is owned by TRGT. Our securities lending agent manages the average maturities of securities on loan against the average maturities of securities on collateral invested. The maturity gap has a limit of 33 days. This is monitored by investment staff on a periodic basis to ensure compliance.

At June 30, 2020, the TRGT had the following securities on loan and received the collateral as shown below:

SECURITIES LENDING

As of June 30, 2020

Securities on Loan	Fair Value of Securities on Loan	Cash Collateral Received
Fixed	\$ 707,555,234	\$ 725,039,642
Equity	1,021,898,075	1,047,150,214
Total	<u>\$ 1,729,453,309</u>	<u>\$ 1,772,189,856</u>

The TRGT has the ability to sell the collateral securities only in the case of a borrower default.

Credit Risk: Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The credit quality distribution for the TRGT’s investments in fixed income securities at year end is included in the schedule below. Securities are rated using Standard and Poor’s and/or Moody’s rating scale and are presented below using the Standard and Poor’s rating scale. The State Pooled Investment Fund has not obtained a credit quality rating from a nationally recognized credit ratings agency.

TRGT’s investment policy specifies that bond issues subject for purchase are investment grade bonds rated by one of the Nationally Recognized Statistical Rating Organizations (NRSROs). There is no requirement to divest an asset if it is downgraded after purchase. For short-term investments, the investment policy provides for the purchase of only the highest quality debt issues. Commercial paper should be rated in the highest tier by all rating agencies which rate the paper, with a minimum of two ratings required. Commercial paper cannot be purchased if a rating agency has the commercial paper on a negative credit watch. The investment policy also requires preparation of a credit analysis report on the corporation prior to purchasing commercial paper.

As noted below, the TRGT does not utilize its own bank accounts but invests in the State Pooled Investment Fund for its operating cash purposes. Required risk disclosures relative to the State Pooled Investment Fund are presented in the State of Tennessee Treasurer’s Report. That report is available on the state’s website at *treasury.tn.gov*.



At June 30, 2020, the TRGT had the following investments:

**CREDIT QUALITY DISTRIBUTION FOR SECURITIES WITH CREDIT EXPOSURE
AS A PERCENTAGE OF TOTAL INVESTMENTS**

As of June 30, 2020

Expressed in Thousands

Rating	Fair Value	Percentage of Total Investments
AAA	\$ 562,777	1.070%
AA	362,720	0.690%
A	1,397,227	2.657%
BBB	3,323,951	6.321%
BB	503,917	0.958%
B	111,449	0.212%
CCC	56,004	0.106%
CC	1,324	0.003%
C	535	0.001%
NR	<u>4,292,267</u>	8.162%
	<u>\$ 10,612,171</u>	
U. S. Government Agencies and Obligations explicitly guaranteed by the U. S. Government	<u>5,070,366</u>	
Total Fixed Income Securities	<u>\$ 15,682,537</u>	
Equity	26,147,808	
Real Estate	4,273,552	
Private Equities	4,042,987	
Strategic Lending	3,222,722	
Preferred Stock not Classified as Fixed Income	81,740	
Derivative Instruments (not rated)	417	
Short term investment fund with custodian (NR)	(6,204)	
Short term investments classified as cash (NR)	<u>(855,861)</u>	
Total Investments of the TRGT	<u><u>\$ 52,589,698</u></u>	

(continued)



Interest Rate Risk: Interest rate risk is the risk that future changes in prevailing market rates of interest will have an adverse effect on the fair value of debt investments. The fair values of securities with long terms to maturity may be highly sensitive to interest rate changes. The investment policy for the TRGT states that the maturity of its debt securities may range from short-term instruments, including investments in the State Pooled Investment Fund, to long-term bonds, with consideration of liquidity needs. However, the policy does not specifically address limits on investment maturities. Duration is a measure of a debt investment’s exposure to fair value changes arising from changing interest rates. It uses the present value of cash flows weighted for those cash flows as a percentage of the investment’s full price. The TRGT had the following investments and effective duration at June 30, 2020.

EFFECTIVE DURATION OF DEBT INVESTMENTS

As of June 30, 2020

Expressed in Thousands

Investment Type	Fair Value	Effective Duration (years)
Government Agencies	\$ 173,464	5.59
Government Bonds	4,059,124	16.44
Government Inflation Indexed	29,688	7.40
Government Mortgage Backed	3,700,230	2.39
Government Asset Backed	113,167	6.24
Municipal Bonds	68,927	16.42
Commercial Mortgage Backed	494,796	1.62
Corporate Asset Backed	827,948	0.85
Corporate Bonds	5,353,127	10.77
Short Term Investments	862,066	0.00
Total TRGT Debt Investments	\$ 15,682,537	8.78

Asset-Backed Securities: The TRGT invests in various collateralized mortgage obligations (CMOs) which are mortgage-backed securities. These securities are based on cash flows from interest and principal payments on underlying mortgages and could therefore be more sensitive to prepayments by mortgagees as a result of a decline in interest rates. The fair value of CMOs at June 30, 2020 was \$494,796,049 of which \$337,525,328 were CMOs that are generally more sensitive to interest rate changes.

(continued)



Foreign Currency Risk: Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit. The investment policy limits the asset allocation for international investments to twenty-five percent of total assets. The TRGT's exposure to foreign currency risk was as follows:

FOREIGN CURRENCY-DENOMINATED INVESTMENTS

As of June 30, 2020

Expressed in Thousands

Currency	Total Fair Value June 30, 2020	Equity	Cash
Australian Dollar	\$ 385,387	\$ 384,799	\$ 588
British Pound Sterling	1,315,628	1,314,384	1,244
Canadian Dollar	1,025,804	1,025,217	587
Danish Krone	335,283	335,283	0
Euro Currency	2,371,978	2,370,639	1,339
Hong Kong Dollar	226,177	226,029	148
Japanese Yen	1,645,786	1,638,389	7,397
New Israeli Shekel	9,622	9,617	5
New Zealand Dollar	5,516	5,516	0
Norwegian Krone	35,329	35,329	0
Singapore Dollar	85,788	84,655	1,133
Swedish Krona	205,980	205,980	0
Swiss Franc	673,861	673,860	1
Total	\$ 8,322,139	\$ 8,309,697	\$ 12,442

Custodial Credit Risk: Custodial credit risk for deposits is the risk that in the event of a bank failure, the TRGT deposits may not be returned to TRGT. The TRGT does not have an explicit policy with regards to custodial credit risk for deposits. At year end, the TRGT had uninsured and uncollateralized cash deposits of \$12,442,304 in foreign currency held by our master custodian, State Street Bank, in State Street's name. These deposits were used for investments pending settlement.

Rate of Return: For the year, the money-weighted rate of return on investments in the TRGT, net of investment expense, was 5.05 percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Derivatives:

Futures - The TRGT may buy or sell fixed income and equity index futures contracts for the purposes of making asset allocation changes in an efficient and cost effective manner and to improve liquidity. Gains (losses) on futures hedge losses (gains) produced by any deviation from the TRGT target allocation. The gains and losses resulting from daily fluctuations in the fair value of the outstanding futures contract are settled daily, on the following day, and a receivable or payable is established for any unsettled gain or loss as of the financial statement date. As of June 30, 2020, the TRGT was under contract for fixed income and equity index futures and the resulting receivable is reflected in the financial statements at fair value.

(continued)



NOTES TO THE FINANCIAL STATEMENTS
JUNE 30, 2020 (CONTINUED)



Foreign Currency Forward Contracts - The international securities expose the TRGT to potential losses due to a possible rise in the value of the US dollar. The TRGT investment managers can reduce foreign currency exposure by selling foreign currency forward contracts, at agreed terms and for future settlement, usually within a year. The manager will reverse the contract by buying the foreign currency before the settlement date. A gain (loss) on this transaction pair will hedge a loss (gain) on the currency movement of the international security. Foreign currency forward contracts expose the TRGT to foreign currency risk as they are denominated in foreign currency. Any unrealized gain on foreign currency forward contracts has been reflected in the financial statements as an investment. The notional amount of the foreign currency forward contracts has been reflected in the financial statements as a receivable and a payable. Any unrealized loss on foreign currency forward contracts has been included in the payable established for the contracts.

Mortgages - The TRGT is authorized to invest in to-be-announced (TBA) mortgage backed securities similar to the foreign currency forward contracts. The TRGT enters into agreements to purchase pools of mortgage backed securities prior to the actual security being identified. The TRGT will roll this agreement prior to settlement date to avoid taking delivery of the security. Any unrealized gain on TBA mortgage backed securities has been reflected in the financial statements as an investment. Any unrealized loss on TBA mortgage backed securities has been included in the payable established for the mortgages. The notional amounts of these agreements have been included in the financial statements as a receivable and a payable. The TRGT invests in these derivatives to adjust its exposure to mortgage coupon risk and to replicate the return on mortgage backed securities portfolios without actually purchasing the security.

The fair value balances and notional amounts of derivative instruments outstanding at year end, classified by type, and the changes in fair value of derivative instrument types for the year ended as reported in the financial statements are as follows:

DERIVATIVE SUMMARY

As of June 30, 2020

Expressed in thousands

	<u>Changes in Fair Value</u>		<u>Fair Value at June 30, 2020</u>		
	<u>Financial Statement Classification</u>	<u>Amount</u>	<u>Financial Statement Classification</u>	<u>Amount</u>	<u>Notional Amount Currency</u>
Foreign Currency					
Forward Contracts		0		0	2,377 HKD
		(21)		(21)	2,530 GBP
	Investment income	\$ (21)	Derivative Instruments Payable	\$ (21)	
Futures Contracts	Investment Income	\$ 7,604	Derivative Instruments Receivable	\$ 6,079	\$ 2,032,769
TBA Mortgage					
Backed Securities	Investment Income	\$ 417	Derivative Instruments Assets	\$ 417	\$ 125,693

(continued)



Futures and TBA mortgage backed securities are exchange traded and their price is based on quoted market prices at year end. It is the TRGT policy to conduct derivative transactions through the custodian bank and high quality money center banks or brokerage firms. The credit risk of futures contracts is managed by maintaining a daily variation margin.

Alternative Investments: The TRGT has investments in strategic lending, private equity funds and real estate with an estimated fair value of \$11,539,261,863 at June 30, 2020. Because these investments are not readily marketable, the estimated value is subject to uncertainty and, therefore, may differ from the value that would have been used had a ready market for the investments existed, and such differences could be material. Title to real property invested in by TRGT is held by real estate investment holding companies.

Commitments:

Standby Commercial Paper Purchase Agreement: The TRGT has agreed to serve as standby commercial paper purchaser for commercial paper issued by the Funding Board of the State of Tennessee. By serving as a standby commercial paper purchaser, the TRGT receives an annual fee of 25 basis points on the \$350 million maximum issuance under this agreement during times when both Moody’s and Standard and Poor’s investment ratings assigned to the State of Tennessee’s general obligation bonds are Aaa and AAA respectively, 40 basis points during times when either Moody’s or Standard and Poor’s has assigned ratings of Aa and AA respectively, or 55 basis points during times when either Moody’s or Standard and Poor’s has assigned ratings lower than Aa and AA respectively. In the unlikely event that the TRGT would be called upon to purchase the commercial paper, the TRGT would receive interest at a rate equal to prime plus 75 basis points during the first 30 consecutive days, plus an additional 50 basis points for each consecutive 30 days thereafter, up to a maximum rate allowed by state law.

Alternative Investments: The TRGT had unfunded commitments of \$7,967,541,687 in private equity, strategic lending, and real estate commitments at year end.

D: NET PENSION LIABILITY (ASSET) FOR COST-SHARING PLANS

The components of net pension liability (asset) at June 30, 2020, were as follows:

	Teacher Legacy Pension Plan	Teacher Retirement Plan
Total Pension Liability	\$ 24,732,472,757	\$ 347,614,810
Plan Fiduciary Net Position	(25,456,232,777)	(400,945,879)
Net Pension Liability (Asset)	\$ (723,760,020)	\$ (53,331,069)
Percent of Net Position to Pension Liability	102.93%	115.34%

(continued)



NOTES TO THE FINANCIAL STATEMENTS
JUNE 30, 2020 (CONTINUED)



Actuarial assumptions: The total pension liability was determined by an actuarial valuation as of June 30, 2019 rolled-forward to a measurement date and a reporting date of June 30, 2020, using the following actuarial assumptions applied to all prior periods included in the measurement:

Inflation	2.5 percent
Salary Increases	Graded salary ranges from 8.72 to 3.46 percent based on age, including inflation, averaging 4.00 percent
Investment Rate of Return	7.25 percent, net of pension plan investment expense, including inflation
Cost of Living Adjustment	2.25 percent

The mortality improvement assumption adopted with the 2016 experience study utilizes the most current projection scale published by the Society of Actuaries as of the actuarial valuation date. As of June 30, 2019, the projection scale was updated from Scale MP-2017 to Scale MP-2018. This change lowered the liability and was included with other differences between expected and actual experience.

The actuarial assumptions used in the June 30, 2019 actuarial valuation were based on the results of an actuarial experience study performed for the period July 1, 2012 through June 30, 2016.

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2016 actuarial experience study. This return was selected from a range of values developed using historical market returns and future capital market projections. The future capital market projections were produced using a building-block method in which a best-estimate of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) is developed for each major asset class. These best-estimates are combined to produce the future capital market projection by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation of 2.5%. The best-estimates of geometric real rates of return and the TCRS investment policy target asset allocation for each major asset class are summarized in the following table:

Authorized Asset Class	Long-Term Expected Real Rate of Return	Target Allocation
U.S. equity	5.69%	31%
Developed market international equity	5.29%	14%
Emerging market international equity	6.36%	4%
Private equity and strategic lending	5.79%	20%
U.S. fixed income	2.01%	20%
Real estate	4.32%	10%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.25 percent based on a comparison of historical market returns and future capital projections.

(continued)



Discount rate: The discount rate used to measure the total pension liability was 7.25 percent. The projection of cash flows used to determine the discount rate assumed that employee contributions from plan members will be made at the statutorily required contribution rates and that employer contributions from LEAs will be made at the actuarially determined rate as required by statute. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of net pension liability (asset) to changes in the discount rate: The following presents the Teacher Legacy Pension Plan's and Teacher Retirement Plan's net pension liability (asset) for LEAs using the discount rate of 7.25 percent, as well as what its net pension liability (asset) would be if it were calculated using a discount rate that is one percentage point lower (6.25%) or one percentage point higher (8.25%) than the current rate:

Plan	1 percent Decrease (6.25%)	Current Discount Rate (7.25%)	1 percent Increase (8.25%)
Teacher Legacy Pension Plan	\$ 2,469,702,970	\$ (723,760,020)	\$ (3,255,167,166)
Teacher Retirement Plan	\$ 51,560,642	\$ (53,331,069)	\$ (131,123,232)



REQUIRED SUPPLEMENTARY INFORMATION



SCHEDULE OF CHANGES IN THE TEACHER LEGACY PENSION PLAN'S NET PENSION LIABILITY (ASSET)
Fiscal Year Ended June 30

Total pension liability	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Service Cost	\$ 324,597,317	\$ 345,065,162	\$ 345,257,426	\$ 351,528,106	\$ 359,568,654	\$ 393,173,920	\$ 404,576,942
Interest	1,716,256,039	1,695,569,610	1,636,816,010	1,618,619,959	1,582,470,751	1,578,251,721	1,483,656,307
Change of benefit terms	0	0	0	0	0	0	0
Difference between expected and actual experience	(442,566,506)	72,474,157	(119,208,468)	(296,555,977)	(764,354,573)	46,576,630	0
Change of assumptions	0	0	346,381,384	0	0	0	0
Benefit payments, including refunds of member contributions	(1,314,913,673)	(1,268,406,149)	(1,218,622,546)	(1,172,892,841)	(1,138,014,028)	(1,096,410,122)	(1,037,013,093)
Net change in total pension liability	<u>283,373,177</u>	<u>844,702,780</u>	<u>990,623,806</u>	<u>500,699,247</u>	<u>39,670,804</u>	<u>921,592,149</u>	<u>851,220,156</u>
Total pension liability - beginning	<u>24,449,099,580</u>	<u>23,604,396,800</u>	<u>22,613,772,994</u>	<u>22,113,073,747</u>	<u>22,073,402,943</u>	<u>21,151,810,794</u>	<u>20,300,590,638</u>
Total pension liability - ending (a)	<u>24,732,472,757</u>	<u>24,449,099,580</u>	<u>23,604,396,800</u>	<u>22,613,772,994</u>	<u>22,113,073,747</u>	<u>22,073,402,943</u>	<u>21,151,810,794</u>
Plan fiduciary net position							
Contributions-employer	353,767,319	350,734,176	318,336,627	319,576,407	327,521,593	338,301,211	348,474,887
Contributions-members	167,155,248	168,919,223	176,442,688	177,940,219	181,763,296	187,121,567	195,520,938
Net investment income	1,215,904,780	1,759,945,606	1,867,629,821	2,365,586,643	560,785,122	646,526,936	3,054,117,822
Benefit payments, including refunds of member contributions	(1,314,913,673)	(1,268,406,149)	(1,218,622,546)	(1,172,892,841)	(1,138,014,028)	(1,096,410,122)	(1,037,013,093)
Administrative expense	(4,571,564)	(5,201,742)	(5,789,356)	(5,347,136)	(6,893,993)	(5,635,689)	(2,663,319)
Net change in plan fiduciary net position	<u>417,342,110</u>	<u>1,005,991,114</u>	<u>1,137,997,234</u>	<u>1,684,863,292</u>	<u>(74,838,010)</u>	<u>69,903,903</u>	<u>2,558,437,235</u>
Plan fiduciary net position - beginning	<u>25,038,890,667</u>	<u>24,032,899,553</u>	<u>22,894,902,319</u>	<u>21,210,039,027</u>	<u>21,284,877,037</u>	<u>21,214,973,134</u>	<u>18,656,535,899</u>
Plan fiduciary net position - ending (b)	<u>25,456,232,777</u>	<u>25,038,890,667</u>	<u>24,032,899,553</u>	<u>22,894,902,319</u>	<u>21,210,039,027</u>	<u>21,284,877,037</u>	<u>21,214,973,134</u>
Net pension liability (asset)- ending (a) - (b)	<u>\$ (723,760,020)</u>	<u>\$ (589,791,087)</u>	<u>\$ (428,502,753)</u>	<u>\$ (281,129,325)</u>	<u>\$ 903,034,720</u>	<u>\$ 788,525,906</u>	<u>\$ (63,162,340)</u>

This schedule is intended to show information for ten years. Additional years information will be shown as it becomes available.



SCHEDULE OF CHANGES IN THE TEACHER RETIREMENT PLAN'S NET PENSION LIABILITY (ASSET)
Fiscal Year Ended June 30

	2020	2019	2018	2017	2016	2015
Total pension liability						
Service Cost	\$ 85,848,628	\$ 74,297,210	\$ 60,633,198	\$ 43,440,149	\$ 28,980,449	\$ 15,581,497
Interest	20,721,440	14,804,562	9,275,807	5,159,135	2,175,079	583,011
Change of benefit terms	0	0	0	0	0	0
Difference between expected and actual experience	(10,298,460)	1,446,372	763,491	2,054,643	(1,477,409)	0
Change of assumptions	0	0	2,496,211	0	0	0
Benefit payments, including refunds of member contributions	(3,695,228)	(2,206,627)	(1,628,598)	(1,021,752)	(283,467)	(34,531)
Net change in total pension liability	<u>92,576,380</u>	<u>88,341,517</u>	<u>71,540,109</u>	<u>49,632,175</u>	<u>29,394,652</u>	<u>16,129,977</u>
Total pension liability - beginning	<u>255,038,430</u>	<u>166,696,913</u>	<u>95,156,804</u>	<u>45,524,629</u>	<u>16,129,977</u>	<u>0</u>
Total pension liability - ending (a)	<u>347,614,810</u>	<u>255,038,430</u>	<u>166,696,913</u>	<u>95,156,804</u>	<u>45,524,629</u>	<u>16,129,977</u>
Plan fiduciary net position						
Contributions-employer	25,616,933	20,529,121	34,957,065	26,262,053	17,538,589	8,310,132
Contributions-members	63,182,574	52,929,975	43,730,696	32,848,220	21,855,921	10,390,077
Net investment income	16,947,487	18,475,708	13,554,381	10,058,396	1,011,283	294,742
Benefit payments, including refunds of member contributions	(3,695,228)	(2,206,627)	(1,628,598)	(1,021,752)	(283,467)	(34,531)
Administrative expense	(2,295,363)	(2,018,230)	(1,846,534)	(1,417,125)	(819,972)	(280,047)
Net change in plan fiduciary net position	<u>99,756,403</u>	<u>87,709,947</u>	<u>88,767,010</u>	<u>66,729,792</u>	<u>39,302,354</u>	<u>18,680,373</u>
Plan fiduciary net position - beginning	<u>301,189,476</u>	<u>213,479,529</u>	<u>124,712,519</u>	<u>57,982,727</u>	<u>18,680,373</u>	<u>0</u>
Plan fiduciary net position - ending (b)	<u>400,945,879</u>	<u>301,189,476</u>	<u>\$213,479,529</u>	<u>124,712,519</u>	<u>57,982,727</u>	<u>18,680,373</u>
Net pension liability (asset) - ending (a) - (b)	<u>\$ (53,331,069)</u>	<u>\$ (46,151,046)</u>	<u>\$ (46,782,616)</u>	<u>\$ (29,555,715)</u>	<u>\$ (12,458,098)</u>	<u>\$ (2,550,396)</u>

This schedule is intended to show information for ten years. Additional years information will be shown as it becomes available.



SCHEDULE OF THE TEACHER LEGACY PENSION PLAN'S NET PENSION LIABILITY (ASSET)

Fiscal Year Ended June 30

	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total pension liability	\$ 24,732,472,757	\$ 24,449,099,580	\$ 23,604,396,800	\$ 22,613,772,994	\$ 22,113,073,747	\$ 22,073,402,943	\$ 21,151,810,794
Plan fiduciary net position	25,456,232,777	25,038,890,667	24,032,899,553	22,894,902,319	21,210,039,027	21,284,877,037	21,214,973,134
Net pension liability (asset)	<u>\$ (723,760,020)</u>	<u>\$ (589,791,087)</u>	<u>\$ (428,502,753)</u>	<u>\$ (281,129,325)</u>	<u>\$ 903,034,720</u>	<u>\$ 788,525,906</u>	<u>\$ (63,162,340)</u>
Plan fiduciary net position as a percentage of the total pension liability	102.93%	102.41%	101.82%	101.24%	95.92%	96.43%	100.30%
Covered payroll	\$ 3,326,750,965	\$ 3,352,756,393	\$ 3,501,703,581	\$ 3,536,976,053	\$ 3,622,228,641	\$ 3,742,270,034	\$ 3,925,131,835
Net pension liability (asset) as a percentage of covered payroll	(21.76)%	(17.59)%	(12.24)%	(7.95)%	24.93%	21.07%	(1.61)%

This schedule is intended to show information for ten years. Additional years' information will be shown as it becomes available.

(continued)



SCHEDULE OF THE TEACHER RETIREMENT PLAN'S NET PENSION LIABILITY (ASSET)

Fiscal Year Ended June 30

	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Total pension liability	\$ 347,614,810	\$ 255,038,430	\$ 166,696,913	\$ 95,156,804	\$ 45,524,629	\$ 16,129,977
Plan fiduciary net position	400,945,879	301,189,476	213,479,529	124,712,519	57,982,727	18,680,373
Net pension liability (asset)	<u>\$ (53,331,069)</u>	<u>\$ (46,151,046)</u>	<u>\$ (46,782,616)</u>	<u>\$ (29,555,715)</u>	<u>\$ (12,458,098)</u>	<u>\$ (2,550,396)</u>
Plan fiduciary net position as a percentage of the total pension liability	115.34%	118.10%	128.06%	131.06%	127.37%	115.81%
Covered payroll	\$1,261,909,185	\$ 1,056,859,310	\$ 873,677,206	\$ 655,205,868	\$ 441,775,131	\$ 207,753,299
Net pension liability (asset) as a percentage of covered payroll	(4.23)%	(4.37)%	(5.35)%	(4.51)%	(2.82)%	(1.23)%

This schedule is intended to show information for ten years. Additional years' information will be shown as it becomes available.

(continued)

**SCHEDULE OF THE TEACHER LEGACY PENSION PLAN'S CONTRIBUTIONS**
Fiscal Year Ended June 30

	Actuarially-Determined Contribution	Contributions in Relation to the Actuarially-Determined Contribution	Contribution Deficiency	Covered Payroll	Contributions as a Percentage of Covered Payroll
2020	\$ 353,767,319	\$ 353,767,319	\$ 0	\$ 3,326,750,965	10.63%
2019	350,734,176	350,734,176	0	3,352,756,393	10.46%
2018	318,336,627	318,336,627	0	3,501,703,581	9.08%
2017	319,576,407	319,576,407	0	3,536,976,053	9.04%
2016	327,521,593	327,521,593	0	3,622,228,641	9.04%
2015	338,301,211	338,301,211	0	3,742,270,034	9.04%
2014	348,474,888	348,474,888	0	3,931,983,889	8.86%
2013	344,534,643	344,534,643	0	3,879,878,989	8.88%
2012	343,594,496	343,594,496	0	3,796,077,699	9.05%
2011	339,833,421	339,833,421	0	3,754,600,827	9.05%

(continued)



SCHEDULE OF THE TEACHER RETIREMENT PLAN'S CONTRIBUTIONS
Fiscal Year Ended June 30

	Actuarially- Determined Contribution	Contributions in Relation to the Actuarially- Determined Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2020	\$ 25,616,933	\$ 25,616,933	\$ 0	\$ 1,261,909,185	2.03%
2019	20,529,122	20,529,122	0	1,056,859,310	1.94%
2018	14,251,505	34,957,065	(20,705,560)	873,677,206	4.00%
2017	10,221,212	26,262,053	(16,040,841)	655,205,868	4.01%
2016	11,044,378	17,538,589	(6,494,211)	441,775,131	3.97%
2015	5,193,832	8,310,132	(3,116,300)	207,753,299	4.00%

This schedule is intended to show information for ten years. Additional years' information will be shown as it becomes available.

(continued)



SCHEDULE OF THE PUBLIC EMPLOYEES RETIREMENT PLAN, THE TEACHER LEGACY PENSION PLAN, AND THE TEACHER RETIREMENT PLAN INVESTMENT RETURNS

Fiscal Year Ended June 30

	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense	5.05%	7.76%	8.40%	11.30%	2.78%	3.29%	16.49%

This schedule is intended to show information for ten years. Additional years' information will be shown as it becomes available.



Method and assumptions used in calculations of actuarially determined contributions.

The actuarially determined contributions for the fiscal year ended June 30, 2020 for Local Education Agencies for the Teacher Legacy Plan were calculated as a result of an actuarial valuation performed as of June 30, 2018. The actuarially determined contributions for the fiscal year ended June 30, 2020 for Local Education Agencies for the Teacher Retirement Plan were calculated as a result of an actuarial valuation performed as of June 30, 2018. The following actuarial methods and assumptions were used to determine contribution rates reported in the schedule:

	<u>Teacher Legacy Pension Plan</u>	<u>Teacher Retirement Plan</u>
Actuarial cost method	Entry Age Normal	Entry Age Normal
Amortization method	Level Dollar Amortization	Level Dollar Amortization
Remaining amortization period	3.08 years	N/A
Inflation	2.5 percent	2.5 percent
Cost of Living Adjustments	2.25 percent	2.25 percent
Salary increases	Graded salary ranges from 8.72 percent to 3.46 percent, including inflation, averaging 4.00 percent	Graded salary ranges from 8.72 percent to 3.46 percent, including inflation, averaging 4.00 percent
Investment rate of returns	7.25 percent, net of pension plan investment expense, including inflation	7.25 percent, net of pension plan investment expense, including inflation



**SCHEDULE OF ADMINISTRATIVE EXPENSES
FOR THE YEAR ENDED JUNE 30, 2020**



**SCHEDULE OF ADMINISTRATIVE EXPENSES
For the Year Ended June 30, 2020**

	<u>Public Employee Retirement Plan</u>	<u>Teacher Retirement Plan</u>	<u>Teacher Legacy Pension Plan</u>	<u>TOTAL</u>
PERSONNEL SERVICES				
Salaries and wages	\$ 1,954,797	\$ 363,384	\$ 723,737	\$ 3,041,918
Employee benefits	792,675	147,354	293,477	1,233,506
TOTAL PERSONNEL SERVICES	<u>2,747,472</u>	<u>510,738</u>	<u>1,017,214</u>	<u>4,275,424</u>
PROFESSIONAL SERVICES				
Accounting	406,686	75,601	150,570	632,857
Actuarial services	333,633	62,020	123,523	519,176
Information systems	3,033,032	563,821	1,122,938	4,719,791
Management services	150,697	28,014	55,793	234,504
Medical review	137,833	25,622	51,030	214,485
Administrative, Internal Audit, Legal, Personnel	2,509,647	466,528	929,161	3,905,336
TOTAL PROFESSIONAL SERVICES	<u>6,571,528</u>	<u>1,221,606</u>	<u>2,433,015</u>	<u>10,226,149</u>
COMMUNICATION				
Travel	29,131	5,415	10,785	45,331
Telephone	141,022	26,215	52,211	219,448
Printing	46,091	8,568	17,064	71,723
Postage	166,428	30,938	61,617	258,983
TOTAL COMMUNICATION	<u>382,672</u>	<u>71,136</u>	<u>141,677</u>	<u>595,485</u>
MISCELLANEOUS				
Office space	95,967	17,840	35,530	149,337
Supplies and maintenance	7,523	1,399	2,786	11,708
Amortization of intangible assets	2,386,617	443,658	883,613	3,713,888
Other services and charges	155,928	28,986	57,730	242,644
TOTAL MISCELLANEOUS	<u>2,646,035</u>	<u>491,883</u>	<u>979,659</u>	<u>4,117,577</u>
TOTAL ADMINISTRATIVE EXPENSES	<u>\$ 12,347,707</u>	<u>\$ 2,295,363</u>	<u>\$ 4,571,565</u>	<u>\$ 19,214,635</u>



**SCHEDULE OF INVESTMENT EXPENSES
FOR THE YEAR ENDED JUNE 30, 2020**



The Tennessee Consolidated Retirement System (TCRS) is a participant in the Tennessee Retiree Group Trust (TRGT) and owns 99.42% of the net asset value. All TRGT participants share equally in the gains, losses, and expenses of the trust. All participants are charged an annual investment expense of 13 basis points (0.13%) and this amount is deducted from the net asset value (NAV) of TRGT daily. For financial statement purposes, plan administrative expenses, actual and accrued, are totaled and evaluated against the fee collected. Any amount in excess or a deficiency is rebated to/charged to plan participants based on their date of participation in that fiscal year. The expenses reflected in this schedule reflect all plan investment expenses for TRGT.

Personnel Services

Salaries and Other Personnel Costs	\$	8,168,910
Travel		109,076
Communication		45,030
Office Space		83,695
Supplies and Maintenance		5,601
Other Services and Charges		47,106
Total Personnel Services		<u>8,459,418</u>

Professional Services

Accounting		520,751
Legal services		183,544
Data processing		36,166
Information systems		1,321,947
Management services		70,921
Administration, Internal Audit, Personnel		1,420,726
Total Professional Services		<u>3,554,055</u>

Investment Activity Expenses

Alternative Asset Fees		209,369
External Investment Manager Fees		30,197,802
Investment Consulting Fees		1,593,046
Investment Custodian Fees		1,714,594
Legal Fees		504,346
Real Estate Manager Fees		13,977,983
Other Investment Professional Fees		1,543,791
Total Investment Activity Expenses		<u>49,740,931</u>

Total Investment Expenses of TRGT* **\$ 61,754,404**

*The investment expenses on the Statement of Changes in Net Fiduciary Position of \$61,495,465 reflect the 13 basis point charges accrued for TCRS throughout the fiscal year less a rebate of excess fees collected.



**SCHEDULES OF EXPENSES FOR CONSULTANTS
FOR THE YEAR ENDED JUNE 30, 2020**



**SCHEDULES OF EXPENSES FOR CONSULTANTS
For the Year Ended June 30, 2020**

	<u>Public Employee Retirement Plan</u>	<u>Teacher Retirement Plan</u>	<u>Teacher Legacy Pension Plan</u>	<u>TOTAL</u>
ACTUARIAL SERVICES				
Findley Inc	\$ 333,633	\$ 62,020	\$ 123,523	\$ 519,176
TOTAL ACTUARIAL SERVICES	<u>333,633</u>	<u>62,020</u>	<u>123,523</u>	<u>519,176</u>
CALL CENTER SERVICES				
Empower	970,595	180,428	359,349	1,510,372
TOTAL CALL CENTER SERVICES	<u>970,595</u>	<u>180,428</u>	<u>359,349</u>	<u>1,510,372</u>
INFORMATION SYSTEMS SERVICES				
Deloitte Consulting LLP	319,086	59,316	118,137	496,539
TOTAL INFORMATION SYSTEMS SERVICES	<u>319,086</u>	<u>59,316</u>	<u>118,137</u>	<u>496,539</u>
MEDICAL REVIEW SERVICES				
University of Massachusetts Worcester	137,833	25,622	51,030	214,485
TOTAL MEDICAL REVIEW SERVICES	<u>137,833</u>	<u>25,622</u>	<u>51,030</u>	<u>214,485</u>
TOTAL EXPENSES FOR CONSULTANTS	<u>\$ 1,761,147</u>	<u>\$ 327,386</u>	<u>\$ 652,039</u>	<u>\$ 2,740,572</u>

Note: For information regarding fees paid to investment professionals, refer to the Investment Section of this report.



Investment Section

Report by Investment Consultant

Letter from TCRS Chief Investment Officer

Statutory Investment Authority

Investment Performance Review

Asset Allocation

Largest Holdings

Investment Summary

Schedules of Investment Fees and Commissions





October 21, 2020

Attn: Mr. Jamie Wayman, Director
 Tennessee Consolidated Retirement System
 Andrew Jackson Building
 Nashville, TN 37243-0230

Re: 2020 CAFR Performance Letter

Dear Jamie:


For the fiscal year ended June 30, 2020, TCRS returned 4.94%, underperforming its policy index (5.42%) and its as-allocated index (5.14%). Strong absolute returns in U.S Fixed Income (12.74%) followed by private equity (6.17%) and US equity (5.67%) were most additive to the portfolio. International Equity was the weakest asset class with a -4.68% return.

TCRS ranked in the top decile of its peer group (Investment Metric’s Public DB > \$1 billion) for the fiscal year ended June 30, 2020. The Plan’s adherence to its strategic asset allocation despite market volatility and its long duration bias in fixed income both contributed to the Plan’s strong peer ranking. Longer term, the Plan ranked in the top quartile of its peer group for the three, five and ten-year periods ended June.

As of June 30, 2020, the System’s asset allocation and one-year respective returns were:

Asset Class	% of Assets	One Year Return
Domestic Equity	29.9%	5.67%
Canada Index Fund	1.8%	-5.00%
International Developed Market	13.3%	-2.74%
International Emerging Market	3.7%	-10.80%
Domestic Fixed Income	25.7%	12.74%
Inflation-Indexed Fixed Income	0.1%	8.91%
Real Estate	9.0%	3.36%
Private Equity	7.4%	6.17%
Strategic Lending	7.4%	-0.17%
Cash and Cash Equivalents	1.7%	0.94%
Total	100.0%	4.94%

In early 2020, the relatively stable environment of the latter half of 2019 shifted dramatically when a novel coronavirus began spreading across the globe. The sudden impact of this pandemic on economic activity and markets was unprecedented. The unemployment rate rose from a 50-year low of 3.5% in February to 14.7% in April, and U.S. real GDP contracted sharply during the second quarter. The size and pace of the shutdowns resulted in global stimulus on a massive scale. After this roller-coaster ride of historical proportions, the S&P 500 Index finished the fiscal year with a respectable 7.5% return, outperforming both developed and emerging market equities (in USD terms). Bonds rallied for much of the fiscal year, and ten-year Treasury yields fell from 2.01% to 0.66%. Holding duration provided a significant downside ballast during the crisis. TCRS’ diversified portfolio held up well in this extremely volatile environment, and the Plan remains well funded and cost effective.

Best Regards,

 Margaret S. Jadallah
 Managing Director



DAVID H. LILLARD, JR.
STATE TREASURER

STATE OF TENNESSEE

MARY JO PRICE
CHIEF OPERATING OFFICER

MICHAEL BRAKEBILL
CHIEF INVESTMENT OFFICER



JAMIE WAYMAN
DIRECTOR OF TCRS

TREASURY DEPARTMENT
STATE CAPITOL
NASHVILLE, TENNESSEE 37243-0225

November 1, 2020

Dear Members,

I am pleased to present the Investment Section of the TCRS Comprehensive Annual Financial Report for the fiscal year ended June 30, 2020.

The Tennessee Retiree Group Trust (TRGT) contained \$53.5 billion in assets as of June 30, 2020. Assets for the TCRS are comingled in the TRGT for investment purposes and TCRS represents \$53.4 billion, or 99.42%, of the TRGT.

TRGT assets are invested to preserve principal value, to achieve a superior rate of return within acceptable risk levels and to provide the liquidity necessary to pay beneficiaries in a timely manner. The portfolio is diversified among domestic and international stocks and bonds, real estate, private equity and short term securities. A diversified portfolio is used to manage risk and to minimize significant exposure to unpredictable events. Staff consults with the TRGT general investment consultant periodically to determine the optimal, long-term mix of assets to best meet the plan's investment objectives. The investment performance for TCRS was computed using a market value based, time-weighted rate of return and is based on it being a sub-component of the TRGT.

The 2020 fiscal year was a modest year for investors and the TRGT gained 4.94% for the fiscal year with an annualized gain of 8.87% for the trailing ten-year period. The ten-year return exceeded the actuarial required return and the portfolio was managed in a manner to protect capital in an adverse environment.

The experienced investment staff of the Tennessee Treasury is committed to providing superior investment returns in a financially-sound manner with the highest ethical and professional standards. With the leadership of our Board, our Treasurer and our dedicated staff, this goal will be met.

Sincerely,

Michael Brakebill
Chief Investment Officer



Statutory Investment Authority

The investment authority for the Board of Trustees of TCRS is set out in *Tennessee Code Annotated*, Section 8-37-104. Pursuant to this authority and the investment terms, conditions and limitations outlined therein, the Board of Trustees approves the TCRS' investment policy. The Board approved TCRS' revised and restated investment policy on November 18, 2016.

The Tennessee Retiree Group Trust (TRGT) was established in 2015 by a statutory enactment of the Tennessee General Assembly. The provisions of the TRGT are codified in *Tennessee Code Annotated* (TCA) Title 8, Chapters 34-37. Pursuant to this statute the Tennessee Consolidated Retirement System (TCRS) and its Board of Trustees with the State Treasurer (Treasurer) as custodian, authorized by TCA 8-37-104 adopted this group trust for the purpose of pooling funds of TCRS with other assets in the custody of the Treasurer, solely for investment purposes. The Custodian shall be responsible for the managing and directing the investment of the Group Trust Funds in accordance with the investment policies of the TCRS.

TCRS' primary investment objective, as set by the Board, is to establish a stable, diversified investment portfolio that, in the long-term, will meet or exceed the assumed actuarial rate of return, as adopted by the Board, in order to provide sufficient liquidity to pay beneficiaries in a timely manner.

TCRS' policies and the strategies implemented by the Treasury Investment Division staff serve to benefit plan members in several ways. The emphasis on a conservative asset allocation and high quality securities helps to ensure the soundness of the system and the ability to provide the needed funds upon a member's retirement.

Funds in the retirement system are actively managed, primarily by the Treasury Investment Division, through a diversified portfolio of high-quality domestic and international bonds, domestic and international stocks, real estate, private equity, and short-term instruments. Pursuant to *Tennessee Code Annotated*, Section 8-37-114, the Treasury Investment Division engages outside investment managers. In those instances, the Investment Division endeavors to use emerging investment managers to the greatest extent feasible within the bounds of financial and fiduciary prudence, as prescribed under Tennessee

Code Annotated, Section 8-37-113. During fiscal year 2019-2020, no assets were under the control of emerging investment managers.

To assist in the fiduciary responsibility for managing the TRGT portfolio during fiscal year 2020, Verus served as the general investment consultant for TRGT. The Townsend Group served as the real estate investment consultant and Aksia served as the private equity consultant.

State Street Bank and Trust Company was the master bank custodian for TRGT, providing safekeeping and accounting services for the investment portfolio during fiscal year 2020.

Cost of Investment Operation

The cost to operate the investment program for TRGT is about thirteen basis points (0.13%). This cost includes the cost of personnel, operational cost, master bank custodian cost, record keeping, and external manager fees. Commission costs for publicly listed securities and management fees for private equity investments are capitalized, meaning commission costs and management fees are not included in the expenses, but are recorded in the value of the assets. Recent peer comparisons of investment management fees and expenses indicate the investment program is managed very cost effectively.

Performance Measurement

Verus provided performance measurement for the TRGT, which delivered a return of 4.94% during the fiscal year. Strong Fixed Income returns led during a challenging year with a gain of 12.74% and was followed by Private Equity (+6.17%) and U.S. Equity (+5.67%). International investments were challenging and Emerging Markets lost 10.8% and Developed International Stocks lost 2.74%. Performance during the fiscal year was significantly impacted by dramatic downward, and then upward, moves in assets throughout the COVID-19 pandemic.



TRGT INVESTMENT PERFORMANCE REVIEW

Periods Ending June 30, 2020

	Annualized Returns		
	Current Year	3-Year	5-Year
Pension Plan Portfolio	4.94%	6.87%	6.93%
Policy Index (1)	5.42%	6.92%	7.10%
As-Allocated Index	5.14%	6.64%	6.91%
Domestic Equity	5.67%	9.20%	8.65%
S & P 1500 Index	6.08%	9.91%	9.49%
Canadian Equity	-5.00%	3.22%	3.49%
S & P TSX 60 Index	-5.38%	3.19%	3.41%
Domestic Fixed Income	12.74%	7.60%	6.45%
Citigroup LPF Index	14.03%	7.83%	6.45%
Inflation Hedge Bonds	8.91%	5.38%	4.02%
Citigroup TIPS Index	8.74%	5.27%	3.92%
International Equity	-4.68%	1.23%	3.07%
International Equity Custom Index	-5.91%	0.27%	2.14%
Real Estate	3.36%	7.12%	8.58%
NCREIF Index	5.28%	6.41%	7.65%
Private Equity	6.17%	13.76%	13.71%
Private Equity Custom Index	1.33%	6.81%	8.94%
Strategic Lending Portfolio	-0.17%	4.35%	5.14%
SL Benchmark	-1.14%	2.73%	3.87%

Verus

	<u>Percentile Rankings</u>	<u>Risk Adjusted Basis</u>
Ranking of TCRS Portfolio		
Last three years	10	8
Last five years	11	11

The percentile ranking is the position of the TRGT portfolio as compared with other public funds with one being the best and 100 being the worst. The investment performance for TRGT was computed using a market, time weighted rate of return by an independent consultant.

(1) Effective 1/1/2019, Policy Index is 31% S&P 1500/ 2% S&P TSX 60/ 13% MSCI EAFE IMI net/ 4% MSCI Emerging Markets net/ 25% Citigroup LPF/ 10% NCREIF 1Q Lag/ 7% Cambridge Associates, Custom Private Equity Benchmark/ 7% Strategic Lending/ 1% 91 Day T-Bill.



TRGT ASSET ALLOCATION

As of June 30, 2020

Asset Class	Fair Value	Percentage
Domestic Equity	\$ 15,859,163,023	30%
Domestic Fixed Income	15,059,800,813	28%
International Equity	7,543,347,030	14%
International Fixed Income	44,100,279	0%
Short-Term Securities	3,405,674,233	6%
Real Estate	4,273,552,630	8%
Private Equities & Strategic Lending	7,265,709,232	14%
Totals	<u>\$ 53,451,347,240</u>	<u>100%</u>

This table describes the asset allocation of the entire TRGT investment portfolio. TCRS is comingled with the TRGT portfolio and owns 99.42% of net asset value in TRGT.

This schedule classifies Canadian investments as domestic securities, convertible bonds as fixed income securities and preferred stock as fixed income securities. For investment purposes, convertible bonds and preferred stock are considered equity securities. Accordingly, the asset allocation percentages in this schedule will vary from the investment consultant's asset allocation percentages.



LARGEST HOLDINGS



TRGT LARGEST STOCK HOLDINGS

As of June 30, 2020

by Fair Value

Shares	Security Name	Fair Value
4,205,728	MICROSOFT CORP	\$ 855,907,705
2,148,439	APPLE INC	783,750,547
240,705	AMAZON.COM INC	664,061,768
1,423,438	FACEBOOK INC CLASS A	323,220,067
210,645	ALPHABET INC CL C	297,769,878
1,992,155	PROCTER + GAMBLE CO/THE	238,201,973
2,330,737	JPMORGAN CHASE + CO	219,229,122
1,554,033	JOHNSON + JOHNSON	218,543,661
1,028,099	VISA INC CLASS A SHARES	198,597,884
989,220	BERKSHIRE HATHAWAY INC CL B	176,585,662

TRGT LARGEST BOND HOLDINGS

As of June 30, 2020

by Fair Value

Par Value	Security Name	Yield	Maturity	Moody's Rating	Fair Value
\$ 253,000,000	US TREASURY N/B	1.42%	5/15/2050	Aaa	\$ 243,117,188
142,000,000	US TREASURY N/B	1.39%	2/15/2046	Aaa	175,835,938
101,500,000	US TREASURY N/B	1.39%	8/15/2048	Aaa	139,578,359
106,000,000	US TREASURY N/B	1.39%	8/15/2047	Aaa	138,479,063
94,336,000	US TREASURY N/B	1.39%	2/15/2046	Aaa	116,814,500
92,000,000	US TREASURY N/B	1.40%	8/15/2049	Aaa	110,630,000
100,000,000	US TREASURY N/B	0.60%	8/15/2029	Aaa	109,109,375
90,375,000	US TREASURY N/B	1.40%	8/15/2046	Aaa	107,150,859
77,200,000	US TREASURY N/B	1.38%	11/15/2046	Aaa	102,663,938
80,000,000	US TREASURY N/B	1.40%	11/15/2049	Aaa	98,800,000

A complete portfolio listing is available upon request.

Key to Ratings: All ratings presented are from Moody's Investors Service with the exception of some of the government agency securities. Moody's does not rate these securities. Standard & Poor's does provide rating for the securities (AAA is Standard & Poor's highest rating.) Government Securities are not rated per se' but are considered the best quality securities.

Moody's rates securities as follows:

Aaa	Best Quality
Aa	High Quality
A	Upper Medium Quality
Baa	Medium Quality
NR	Not Rated



TRGT INVESTMENT SUMMARY

June 30, 2020

	Domestic		International		Total	
	Fair Value	%		%	Fair Value	%
Fixed Income						
Government Bonds	\$ 4,239,914,229	7.93%	\$ 0	0.00%	\$ 4,239,914,229	7.93%
Corporate Bonds	5,149,417,089	9.63%	0	0.00%	5,149,417,089	9.63%
Municipal/Provincial Bonds	68,926,872	0.13%	0	0.00%	68,926,872	0.13%
Total Bonds	9,458,258,190	17.69%	0	0.00%	9,458,258,190	17.69%
Corporate Asset Backed	827,948,095	1.55%	0	0.00%	827,948,095	1.55%
Commercial Mortgage Backed	494,796,049	0.93%	0	0.00%	494,796,049	0.93%
Government Agencies	427,761,677	0.80%	0	0.00%	427,761,677	0.80%
Government Mortgage Backed Securites	3,700,229,975	6.92%	0	0.00%	3,700,229,975	6.92%
Government Asset Backed	113,166,649	0.21%	0	0.00%	113,166,649	0.21%
Preferred Stock	37,640,178	0.07%	44,100,279	0.08%	81,740,457	0.15%
Total Fixed Income	15,059,800,813	28.17%	44,100,279	0.08%	15,103,901,092	28.25%
Common Stock						
Consumer Discretionary	1,690,836,455	3.16%	823,427,898	1.54%	2,514,264,353	4.70%
Consumer Staples	1,012,628,433	1.89%	733,534,379	1.37%	1,746,162,812	3.26%
Energy	388,041,923	0.73%	328,766,702	0.62%	716,808,625	1.35%
Financials	1,634,794,452	3.06%	1,199,760,549	2.24%	2,834,555,001	5.30%
Healthcare	2,313,403,156	4.33%	896,100,847	1.68%	3,209,504,003	6.01%
Industrials	1,426,600,420	2.67%	1,472,704,605	2.76%	2,899,305,025	5.43%
Information Technology	3,982,742,457	7.45%	796,249,906	1.49%	4,778,992,363	8.94%
Materials	433,726,459	0.81%	553,353,666	1.04%	987,080,125	1.85%
Private Placements	74,152	0.00%	8,226,945	0.02%	8,301,097	0.02%
Real Estate	36,632,067	0.07%	89,275,568	0.17%	125,907,635	0.24%
Telecommunication Services	1,493,755,367	2.79%	373,561,726	0.70%	1,867,317,093	3.49%
Utilities	474,134,520	0.89%	202,874,123	0.38%	677,008,643	1.27%
Corporate Equities	921,950,726	1.72%	65,510,116	0.12%	987,460,842	1.84%
Depository Receipts	49,451,299	0.09%	0	0.00%	49,451,299	0.09%
Shares Beneficial	391,137	0.00%	0	0.00%	391,137	0.00%
Total common stock	15,859,163,023	29.66%	7,543,347,030	14.13%	23,402,510,053	43.79%

(continued)



INVESTMENT SUMMARY (CONTINUED)



TRGT INVESTMENT SUMMARY (CONTINUED)

June 30, 2020

	Domestic		International		Total	
	Fair Value	%	Fair Value	%	Fair Value	%
Short-Term Investments						
Commercial Paper	654,172,211	1.22%	0	0.00%	654,172,211	1.22%
Pooled Funds and Mutual Funds	2,751,502,022	5.15%	0	0.00%	2,751,502,022	5.15%
Total Short Term Investments	<u>3,405,674,233</u>	<u>6.37%</u>	<u>0</u>	<u>0.00%</u>	<u>3,405,674,233</u>	<u>6.37%</u>
Real Estate	4,273,552,630	8.00%	0	0.00%	4,273,552,630	8.00%
Private Equities & Strategic Lending	<u>6,543,459,488</u>	<u>12.24%</u>	<u>722,249,744</u>	<u>1.35%</u>	<u>7,265,709,232</u>	<u>13.59%</u>
Total Investments	<u>45,141,650,187</u>	<u>84.44%</u>	<u>8,309,697,053</u>	<u>15.56%</u>	<u>53,451,347,240</u>	<u>100.00%</u>
Derivatives & Options	416,728		0		416,728	
Short Term Investments Classified as Cash Equivalents	<u>(862,065,796)</u>		<u>0</u>		<u>(862,065,796)</u>	
Total Investments of the Tennessee Retiree Group Trust	<u>\$ 44,280,001,119</u>		<u>\$ 8,309,697,053</u>		<u>\$ 52,589,698,172</u>	

Note: TCRS owns 99.42% of the net asset value of the Tennessee Retiree Group Trust.



SCHEDULES OF INVESTMENT FEES AND COMMISSIONS
FOR THE YEAR ENDED JUNE 30, 2020



TRGT Schedule of Fees

	Average Assets Under Management	Fees
Asset Management		
External Investment Manager Fees	\$ 7.6 Billion	\$ 30,577,358
Real Estate Asset Management	4.3 Billion	17,057,713
Private Equities & Strategic Lending Asset Management	7.3 Billion	212,000
Total Asset Management		<u>\$ 47,847,071</u>
Other Investment Services Fees		
Custodian Bank	\$ 52.7 Billion	\$ 1,736,145
General Investment Consultant	52.7 Billion	602,149
Real Estate Investment Consultant	4.3 Billion	269,560
Private Equities & Strategic Lending Investment Consultant	7.3 Billion	947,920
Total Investment Services Fees		<u>\$ 3,555,774</u>

(continued)



**SCHEDULES OF INVESTMENT FEES AND COMMISSIONS
FOR THE YEAR ENDED JUNE 30, 2020 (CONTINUED)**



TRGT Schedules of Commissions

Domestic Exchange Traded Shares

Broker Name	DOMESTIC		
	Number of Shares Traded	Total Commissions	Commission per Share
Instinet, LLC	108,509,195	\$ 2,170,184	0.0200
JP Morgan	25,700,280	514,006	0.0200
RBC Capital Markets Corporation	20,898,957	417,979	0.0200
Robinson Humphreys	15,738,663	314,773	0.0200
RJ Equity Partners	12,047,399	240,948	0.0200
Barclays Capital	10,182,658	203,653	0.0200
UBS Securities LLC	7,580,937	151,619	0.0200
Wolfe Research	5,240,164	104,803	0.0200
OTHER BROKERS*	17,849,480	415,402	0.0233
Totals	223,747,733	\$ 4,533,367	

Program Trades where total commission cost includes trading commission, liquidity fees, and market impact fees.

Broker Name	DOMESTIC		
	Number of Shares Traded	Total Commissions	Commission per Share
Morgan Stanley & Company, Inc.	67,667,871	\$ 507,514	0.0075
Merrill Lynch	67,551,432	506,722	0.0075
C S FBCO	22,525,778	450,515	0.0200
UBS Securities LLC	56,268,585	422,019	0.0075
Wells Fargo	45,656,398	342,434	0.0075
Capis	9,146,215	182,926	0.0200
BTIG	21,857,511	163,933	0.0075
Barclays Capital	9,283,305	153,226	0.0165
RBC Capital Markets	17,867,982	122,815	0.0069
OTHER BROKERS*	17,486,138	131,147	0.0075
Totals	335,311,215	\$ 2,983,251	

*LESS THAN \$100,000 TOTAL COMMISSION PER BROKERAGE FIRM

(continued)



SCHEDULES OF INVESTMENT FEES AND COMMISSIONS
FOR THE YEAR ENDED JUNE 30, 2020 (CONTINUED)



International Exchange Traded Shares

Broker Name	INTERNATIONAL		
	Number of Shares Traded	Total Commissions	Commission per Share
UBS Securities LLC	103,042,722	\$ 449,761	0.0044
Goldman Sachs Group, Inc.	61,535,999	390,556	0.0063
Morgan Stanley & Company, Inc.	51,506,219	256,537	0.0050
Jefferies International	18,209,077	253,838	0.0139
Merrill Lynch	25,291,186	247,908	0.0098
JP Morgan Chase & Company	45,557,607	232,952	0.0051
Citigroup Global Markets, Inc.	56,859,981	190,255	0.0033
HSBC Bank	48,538,611	182,931	0.0038
Instinet	53,189,234	174,143	0.0033
Credit Suisse	49,755,296	143,998	0.0029
Macquarie Group Limited	8,803,356	133,026	0.0151
Exane	15,949,146	110,936	0.0070
Barclays Capital	12,673,613	110,026	0.0087
Sanford C Bernstein Co	48,843,801	108,268	0.0022
Pershing	12,592,511	103,026	0.0082
OTHER BROKERS*	189,712,715	1,194,340	0.0063
TOTALS	802,061,074	\$ 4,282,501	

Shares for international stocks are based on the actual foreign shares traded while the commission is expressed in U.S. dollars. Therefore, commissions per share between domestic and international are not comparable.

*LESS THAN \$100,000 TOTAL COMMISSION PER BROKERAGE FIRM



Actuarial Section

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ACTUARIAL VALUATIONS

Actuarial valuations of the TCRS are performed by an independent actuarial consulting firm to assess the funded status of the system and to determine employer contribution rates for its various components. The valuation performed as of June 30, 2018 set employer rates effective July 1, 2019 through June 30, 2020. The June 30, 2019 valuation established contribution rates beginning July 1, 2020. The Board of Trustees of the system is responsible for adopting the employer contribution rates after reviewing the actuarial results.

FUNDING OF PENSIONS

It is the policy of the state to fund pensions by actuarially-determined contributions which are intended to provide funding for both the normal liability cost and the unfunded actuarial accrued liability cost. This policy seeks to ensure that sufficient assets will be available to pay the benefits as promised by the pension plan.

ACCRUED LIABILITY

Unfunded accrued liability is equal to the excess of the Entry Age Normal Past Service Liability over the valuation assets for each group. A tier approach is utilized with new actuarial gains and losses from each actuarial valuation.

SPECIFICS

Valuations are based on demographic data (employees' ages, salaries and service credits), economic projections (salary increases, interest rates and investment earnings) and decrement estimates (mortality and disability rates).

The economic projections and decrement estimates used for valuation purposes utilized the assumptions recommended by the actuary and adopted by the Board of Trustees based on an actuarial experience study conducted every four years. The earnings rate assumption adopted by the Board is subject to the approval of the Council on Pensions and Insurance.

QUADRENNIAL EXPERIENCE STUDY

A quadrennial experience study was conducted as of June 30, 2016. The system made adjustments to the mortality assumptions to reflect TCRS experience, including an assumption for future mortality improvement. In addition, the system lowered the long-term inflation assumption, which also lowered other economic assumptions such as the discount rate, COLA and salary scale for all groups. Assumptions developed from the June 30, 2016 experience study were used in each actuarial valuation starting with the June 30, 2017 valuation. The 2020 experience is currently being prepared.

FUNDING POLICY

The TCRS Board of Trustees adopted a funding policy for TCRS on September 26, 2014. The policy outlines the procurement of actuarial services, the assumptions to be used in the experience study, the components of the actuarial valuation, and performance of an actuarial audit. The funding policy can be found in the Reporting and Investment Policies section of the TCRS website at treasury.tn.gov/TCRS.



Justin C. Thacker, F.S.A.
Direct Line: (615) 665-5387
Email: Justin.Thacker@Findley.com

October 26, 2020

Mr. David H. Lillard, Jr.
Chairman, Board of Trustees
Tennessee Consolidated Retirement System
502 Deaderick Street
Nashville, Tennessee 37243-0201

Re: Actuary's Certification Letter

Dear Mr. Lillard:

The purpose of this letter is to certify the actuarial adequacy of contributions being made by the State of Tennessee, Local Education Agencies and participating Political Subdivisions to the Tennessee Consolidated Retirement System and to discuss the approach currently being taken toward meeting the financing objectives of the Plan.

The most recent actuarial valuation for funding purposes completed as of the year ending June 30, 2020 for the Tennessee Consolidated Retirement System was performed as of June 30, 2019. In addition, a valuation for accounting purposes pursuant to GASB 67 and 68 was performed as of June 30, 2019 and was used to satisfy June 30, 2020 reporting date requirements. These valuations were based on a set of actuarial assumptions (described in detail in the section headed "Summary of Actuarial Assumptions and Methods") which was adopted by the Board of Trustees on the recommendation of the actuary after a study of actual experience under the TCRS during the four-year period ending June 30, 2016. Actuarial valuations are performed annually for both funding and accounting purposes.

The Tennessee Consolidated Retirement System implemented a new hybrid plan design for all new employees hired on or after July 1, 2014. Employees hired prior to this date continue to participate in the legacy plans. The funding and accounting valuations reflect this change and provide separate reporting for each plan. There have been no significant changes in the level of benefits provided by the plans since the date of the preceding valuation.

In performing the 2019 valuations, we relied on employee data and asset information provided by the administrative staff of the Tennessee Consolidated Retirement System. In the case of employee data, each individual record was audited for reasonableness and internal consistency, although the validity of the information was not traced to source documents. With respect to plan assets, a general review for consistency with the information furnished for prior valuations was performed.

(continued)



Mr. David H. Lillard, Jr.
Chairman, Board of Trustees
October 26, 2020
Page Two

Certain tables presented in the Comprehensive Annual Financial Report are derived from the 2019 actuarial valuation reports prepared by Findley. The tables were prepared by the staff of the Tennessee Consolidated Retirement System and examined by our firm. These tables include the following –

Financial Section

- Schedules of Changes in Net Pension Liability
- Schedules of Net Pension Liability
- Schedule of Contributions

Actuarial Section

- Summary of Actuarial Assumptions and Methods
- Actuarial Data
- Actuarial Balance Sheet
- Short-Term Solvency Test
- Summary of Accrued and Unfunded Accrued Liabilities
- Selected Actuarial Funding Information
- Analysis of Financial Experience

The Schedule of Retired Member Activity in the Actuarial Data section was prepared by our firm using information gathered from prior actuarial valuations.

The 2019 actuarial funding valuations were prepared in accordance with accepted actuarial standards, including the overall appropriateness of the assumptions and methods, and conformed to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board. The funding valuations were also in accordance with the pension funding policy adopted by the TCRS Board of Trustees. In addition, the 2019 actuarial valuations for accounting purposes were prepared in accordance with the Governmental Accounting Standards Board Statements 67 and 68. I am a Member of the American Academy of Actuaries and a consulting actuary with Findley of Brentwood, Tennessee, with experience in performing valuations for public retirement systems and have met the Qualification Standards of the American Academy of Actuaries. All calculations were performed either by me or by other qualified actuaries under my direct supervision.

Based upon the valuation results and the contribution rates adopted by the Board of Trustees, it is our opinion that the Tennessee Consolidated Retirement System continues to fund its liabilities in accordance with standard actuarial principles of advance funding, continuing a program first adopted in 1975.

Sincerely,

Justin C. Thacker, F.S.A.



The following assumptions were adopted by the Board of Trustees for use with actuarial valuations beginning with the July 1, 2017 valuation. The assumptions used are based on the consulting actuary's recommendations resulting from the June 30, 2016 actuarial experience study.

General Actuarial Methods

- **Actuarial Cost Method (Entry Age Normal)** — Unfunded accrued liability tiers by year are being amortized over various periods not to exceed 20 years using the level dollar amortization method in accordance with the funding policy. The amortization period related to local government unfunded accrued liabilities varies by entity.
- **Treatment of Actuarial Gains and Losses** — Under the Entry Age Normal method, a tier approach is utilized with new actuarial gains and losses from each actuarial valuation. Each new tier of unfunded accrued liabilities is amortized over a period in accordance with the TCRS funding policy.
- **Asset Valuation Method** — Assets are valued on a basis which reflects a ten-year moving average of the fair value. The actuarial value of assets must be within 80-120 percent of the fair value of assets.
- **Valuation Data** — The administrative staff of TCRS furnishes the actuary with demographic data relating to the active life members and the retired life members. The fair value of system assets are also provided by retirement system staff. All data is reviewed for reasonableness and consistency from year to year, but is not audited by the actuary.
- **Post-Retirement Adjustments** — Retirement benefits are assumed to increase at the geometric rate of 2.25 percent annually, reflecting the 1997 adoption of compounded cost-of-living adjustments.

Economic Assumptions

- **Investment Return Rate** — 7.25 percent per annum, compounded annually.
- **Employee Salary Increases** — Graded scale that reflects the plan experience pattern of declining escalation rates as participant ages increase. No explicit assumption is made regarding the portion attributable to the effects of inflation on salaries. Active membership is assumed to remain constant. For the legacy pension plan, increase in Social Security Wage Base — 3.0 percent annual increase.

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Decrement Assumptions

Post-Retirement Mortality — Mortality assumptions utilize the RP-2014 industry standard base table for annuitants adjusted for TCRS experience, with mortality improvements projected six years beyond each actuarial valuation date for the Legacy Plan and projected generationally for the Hybrid Plan.

Pre-Retirement Mortality — Mortality assumptions utilize the RP-2014 industry standard base table for non-annuitants adjusted for TCRS experience, with mortality improvements projected fifteen years beyond each actuarial valuation date for the Legacy Plan and projected generationally for the Hybrid Plan.

Withdrawal Due to Disability — Sample rates of disability based on experience:

Male			
Age	Teachers	State	Political Subdivisions
Age 30	0.01%	0.07%	0.03%
Age 40	0.08%	0.16%	0.08%
Age 50	0.17%	0.27%	0.38%

Female			
Age	Teachers	State	Political Subdivisions
Age 30	0.01%	0.04%	0.03%
Age 40	0.08%	0.14%	0.08%
Age 50	0.17%	0.33%	0.38%

Turnover Assumption — Tables for probabilities of separation due to termination of employment are developed utilizing a “two-year select and ultimate” approach.

Teachers			
	1st Year Employment	2nd Year Employment	Ultimate
Male			
Age 30	18.0%	13.5%	6.0%
Age 40	18.0%	13.5%	2.0%
Age 50	19.7%	14.2%	2.0%
Female			
Age 30	18.0%	13.5%	7.6%
Age 40	18.0%	13.5%	2.3%
Age 50	19.7%	14.2%	1.6%

State			
	1st Year Employment	2nd Year Employment	Ultimate
Male			
Age 30	23.0%	18.6%	9.6%
Age 40	18.6%	13.8%	2.6%
Age 50	14.8%	11.1%	2.2%
Female			
Age 30	23.0%	18.6%	10.3%
Age 40	18.6%	13.8%	3.4%
Age 50	14.8%	11.1%	2.3%

Political Subdivisions			
	1st Year Employment	2nd Year Employment	Ultimate
Male			
Age 30	21.8%	17.9%	7.4%
Age 40	19.2%	15.9%	3.5%
Age 50	17.0%	13.0%	2.8%
Female			
Age 30	21.8%	17.9%	11.1%
Age 40	19.2%	15.9%	5.4%
Age 50	17.0%	13.0%	3.8%



Retirement — The probabilities of retirement for members eligible to retire:

In addition, for members younger than age 60, a loading factor of 12.5 percent for teachers and 7.5 percent for state and political subdivision employees is added during the year the member is first eligible for unreduced retirement. After age 60, for those members with 15 or more years of service, an 8.0 percent load is added for teachers and 2.0 percent for state employees and political subdivision employees.

Male			
Age	Teachers	State	Political Subdivisions
Age 60	15.0%	8.5%	10.5%
Age 61	16.0%	11.0%	15.0%
Age 62	22.0%	16.0%	20.0%
Age 63	16.0%	12.0%	17.5%
Age 64	18.0%	14.0%	17.5%
Age 65	35.0%	22.0%	24.0%
Age 70	16.0%	15.5%	18.0%
Age 75	100.0%	100.0%	100.0%

Female			
Age	Teachers	State	Political Subdivisions
Age 60	17.0%	9.0%	11.0%
Age 61	20.0%	12.0%	13.0%
Age 62	26.0%	18.0%	18.0%
Age 63	19.5%	12.0%	16.0%
Age 64	24.0%	14.0%	16.0%
Age 65	37.5%	22.0%	22.0%
Age 70	34.0%	17.0%	19.0%
Age 75	100.0%	100.0%	100.0%



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August 10, 2020

Jamie Wayman, Director
Tennessee Consolidated Retirement System
502 Deaderick Street
Nashville, TN 37243-0201

Re: Level One Actuarial Audit of the Tennessee Consolidated Retirement System

Dear Mr. Wayman:

We are pleased to present the results of our full-scope (Level one) audit of the Tennessee Consolidated Retirement System (TCRS, or System). The purpose of this audit is to replicate the results presented in the Actuarial Valuation Report as of June 30, 2019 prepared by the System's actuary, Findley, and to determine whether the Plans are being funded on an adequate basis using actuarial assumptions that are reasonable, consistent and meet generally accepted actuarial principles, and, with respect to actuarial matters, whether the Plans are in compliance with State law and the policy of the Board of Trustees.

Segal reviewed the State and Higher Education Employees and K-12 Public School Teacher classifications in both the Legacy defined benefit (DB) plan and the Hybrid (DB/DC) plan. Other employee classifications were not reviewed. Our audit also includes a review of the Experience Study covering the period July 1, 2012 – June 30, 2016 prepared by Findley.

This review was conducted under the supervision of Brad Ramirez and Tammy Dixon. Both are Fellows of the Society of Actuaries, Fellows of the Conference of Consulting Actuaries, members of the American Academy of Actuaries, and Enrolled Actuaries under ERISA. This review was conducted in accordance with the standards of practice prescribed by the Actuarial Standards Board.

The assistance of the TCRS staff and Findley is gratefully acknowledged.

We appreciate the opportunity to serve as an independent actuarial advisor for the State of Tennessee and we are available to answer any questions you may have on this report.

Sincerely,

Brad Ramirez, FSA, FCA, MAAA, EA
Vice President and Consulting Actuary

Tammy Dixon
Vice President and Consulting Actuary

cc: Leon (Rocky) Joyner, Jr., FCA, ASA, MAAA, EA

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Executive Summary

The State of Tennessee Treasury Department retained Segal to conduct an independent Level one actuarial audit of the June 30, 2019 Actuarial Valuation Reports of the Tennessee Consolidated Retirement System (TCRS, or System) performed by Findley.

The objectives for this engagement included:

- A review of the quality of the Actuarial Valuation reports and Experience Study report;
- A review of the reasonableness and consistency of actuarial methods and assumptions, including the major economic assumptions (earnings, cost-of-living increases and salary);
- Replication of the valuation results to confirm reasonableness and accuracy of contribution rates and accrued liabilities;
- An evaluation of whether the valuation reflects state statutes and Board policies; and
- An evaluation of whether the valuation was performed in accordance with Actuarial Standards of Practice (ASOPs).

The primary objective of an actuarial audit of any valuation is to provide validation that the liabilities and costs of the System are reasonable and calculated as intended. This independent audit includes a full replication of the actuarial valuation results, plus a review of the key components in the valuation process that encompass the derivation of the liabilities and costs for TCRS.

These key components include the benefits valued, the actuarial assumptions and funding method used, and the asset valuation method employed. The valuation report and select valuation output for a number of active, terminated vested, and pay status test lives provided the detail necessary to validate each of these key components. We were not asked to evaluate the demographic data, any gain/loss analysis, or previous year valuations.

We reviewed all information supplied by TCRS, including sample benefit calculations for recent retirees. We also requested and reviewed additional information from Findley, including test lives and documentation of procedures beyond those disclosed in the valuation report.

Summary of Findings

This peer review validates the findings of the June 30, 2019 actuarial valuations. Segal was able to match the valuation results and the test life output within an acceptable range. We concluded the valuations were performed in accordance with the Actuarial Standards of Practice (ASOPs) promulgated by the Actuarial Standards Board (ASB).

Actuarial Valuation Reports

We began with a review of the Actuarial Valuation Reports for compliance with applicable standards of practice and governmental required reporting. Overall, it is our opinion that the reports completely and fairly present the results of the actuarial valuations and comply with all

(continued)



applicable actuarial standards. We also offer ideas for improving the quality and understanding of the Actuarial Valuation Reports. The following is a summary of our key recommendations:

1. **We strongly suggest that Findley include an *Executive Summary or Valuation Highlights* section at the front of the valuation report that provides key results.**
2. **We suggest the *2019 Valuation* section, currently located on page C-11, be provided before the ten-page history.**
3. The *2019 Valuation* summary notes that the amortization schedule of each gain/loss tier was adjusted with the 2019 valuation. **We suggest the actuary show the number of years in the prior amortization schedules and the adjusted amortization schedules as well as the impact of the adjustment.**
4. **While the 2019 Actuarial Report prepared by Findley includes a basic Risk Discussion, we suggest the disclosure could be improved by providing financial projections.**
5. The Legacy Plan report shows a negative Unfunded Actuarial Accrued Liability (or surplus) for Teachers. **The report should indicate how this surplus is amortized in determining the contribution rates.**

Experience Study

We also reviewed the Experience Study report for July 1, 2012 through June 30, 2016, the methodologies used to set the assumptions, and the recommendations that Findley provided. We considered the reasonableness of the proposed actuarial assumptions and methods in the context of our own experience, and those of other state and local pension systems. Details on our suggested modifications before the next experience study are in Section 1. We also offer ideas for improving the quality and understanding of the Experience Study report.

On February 29, 2016, the Pension Task Force (PTF) of the Actuarial Standards Board (ASB) released a report summarizing its opinions on various proposals to change pension standards related to public pension plans. The Experience Study was published on February 6, 2019 and we suggest Findley should have considered the PTF Report conclusions in preparing their reports.

Methods and Assumptions

Overall, it is our opinion that the methodologies used to examine the System's assumptions and methods are reasonable and comply with the Actuarial Standards of Practice. The following is a summary of our key conclusions:

1. In our opinion, the Experience Study for July 1, 2012 through June 30, 2016 conforms to the appropriate Standards of Practice as promulgated by the Actuarial Standards Board.
2. The procedures used to analyze the assumptions are reasonable.
3. The recommended economic and demographic assumptions appear to be reasonable in light of the plan experience.
4. The actuarial cost method (individual entry age normal) also meets actuarial standards, and

(continued)



is the most commonly used method among public sector plans.

5. In our opinion, the asset valuation method, with ten-year smoothing and a 20% corridor around market value, is reasonable and meets actuarial standards. However, we note that the majority of public plans use a shorter smoothing period.
6. The Pension Task Force of the Actuarial Standards Board (ASB) suggests disclosure of a solvency (market-consistent) value of liabilities in the actuarial valuation report. The Actuarial Standards Board has issued an Exposure Draft for ASOP No. 4 that would require this disclosure in valuation reports.

Valuation Results

Our replication of the TCRS Legacy valuation produced results that are 0.7% higher than Findley for the total Actuarial Present Value of Projected Benefits, 0.7% lower for retirees and beneficiaries, 0.5% higher for inactive and vested deferred members and 2.4% higher for active members.

Our replication of the TCRS Hybrid valuation produced results that are 1.1% higher than Findley for the total Actuarial Present Value of Projected Benefits, 0.7% higher for inactive and vested deferred members, 1.2% higher for active members, and an exact match for retirees.

Differences less than 5% are generally considered a reasonable match. The results for both Plans are well within that tolerance. Additional detail on the replication of the valuations are in Sections III and IV.

With that said, Segal did find some areas where the valuation could be improved with regard to the accuracy of liability calculations. Our key recommendations are as follows:

1. Return of Excess Contributions – TCA 8-37-212 provides that the excess, if any, of accumulated contributions over the sum of actual retirement allowance payments received be paid as a lump sum to the surviving beneficiary or estate. Our analysis of the test lives indicates that this provision was not valued in the liability, although it is described on page G-2 of the Legacy valuation report. The effect of this coding difference was minimal. **We recommend that Findley program the return of contributions plan provision.**
2. For current terminated vested participants and for Legacy vested active participants assumed to withdraw from employment before eligibility for retirement and elect a deferred annuity, Findley programming assumes there is no liability for deaths prior to commencement of the deferred annuity. However, a death benefit would be payable in that situation (an annuity to married participants with 10 or more years of service or lump sum return of contributions in all other cases). The effect of this coding difference was minimal. **We recommend that Findley program these pre-retirement death benefit provisions.**
3. For retirements from active status, Findley currently assumes that no participants will elect reduced early retirement benefits. We think this is likely an oversimplification (although we have not analyzed any actual retirement experience). **We recommend use of early retirement decrements be considered and anticipate that implementing a reduced early retirement assumption could increase liabilities for the Legacy Plan.**

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4. For retirements from terminated vested status, Findley currently assumes that participants will commence benefits at Service Retirement eligibility (except Legacy active participants terminating in a future year, who are assumed to retire at their earliest retirement age). A single retirement age for terminated vested participants is unlikely to adequately capture the range of retirement scenarios for such participants. **We recommend that consideration be given to retirement rates based on age/eligibility, similar to the assumption for retirements from active status.**

5. Findley notes in its summary of plan provisions that all pre-retirement deaths are assumed to be ordinary (i.e. not in the line of duty). We expect that, in most cases, the benefit for a line-of-duty death would be more valuable than the ordinary death benefit, so that implementing any probability of line-of-duty deaths would increase liabilities. However, the magnitude of the change would be dependent on the exact assumption chosen. **We recommend that an explicit assumption be applied to determine ordinary and line-of-duty deaths.**

6. For pre-retirement deaths that occur after reaching retirement eligibility, an annuity is payable to the beneficiary of all participants (not just married participants). Findley's current methodology assumes that only 80% of participants (those assumed to be married) receive the annuity, while the remaining 20% receive the lump sum death benefit. **We recommend valuing the greater of the two possible death benefits for 100% of deaths occurring after retirement eligibility.**

7. For pre-retirement deaths that occur before reaching retirement eligibility and where the participant is assumed to be married, Findley's coding for the Hybrid Plan does not appear to reflect any early retirement reductions that would apply. **We recommend applying the early retirement reductions, where applicable.**

These items and our recommendations are described in more detail throughout this report.



SCHEDULE OF ACTIVE MEMBER VALUATION DATA

	Actuarial Valuation July 1	Number	Annual Payroll In Thousands	Average Annual Pay	Average Annual Percentage Increase In Average Pay
2009	SETHEEPP	136,158	\$ 6,054,528	\$ 44,467	2.74%
	PSPP	78,792	2,282,081	28,963	3.09%
2011	SETHEEPP	135,588	6,058,348	44,682	0.24%
	PSPP	79,488	2,354,939	29,626	1.14%
2013	SETHEEPP	132,900	6,236,930	46,929	2.48%
	PSPP	77,064	2,374,948	30,818	1.99%
2015	TLPP	69,125	3,542,059	51,241	0.84%
	TRP	5,524	225,219	40,771	N/A
	PERP	134,426	4,987,326	37,101	1.70%
2016	TLPP	65,458	3,465,946	52,949	3.33%
	TRP	11,079	464,122	41,892	2.75%
	PERP	136,524	5,241,126	38,390	3.47%
2017	TLPP	62,320	3,414,741	54,794	3.48%
	TRP	15,607	674,906	43,244	3.23%
	PERP	139,397	5,566,390	39,932	4.02%
2018	TLPP	59,487	3,460,664	58,175	6.17%
	TRP	19,634	905,280	46,108	6.62%
	PERP	140,238	5,816,152	41,473	3.86%
2019	TLPP	56,294	3,248,210	57,701	-0.81%
	TRP	23,345	1,068,265	45,760	-0.75%
	PERP	142,259	6,045,602	42,497	2.47%

SCHEDULE OF RETIRED MEMBER VALUATION DATA

	Actuarial Valuation July 1	Number	Annual Allowances In Thousands	Average Annual Allowances	Average Annual Percentage Increase In Annual Allowances
2009	SETHEEPP	77,310	\$ 1,281,514	\$ 16,576	2.39%
	PSPP	30,565	205,326	6,718	3.03%
2011	SETHEEPP	83,041	1,457,974	17,557	2.92%
	PSPP	33,544	241,910	7,212	3.61%
2013	SETHEEPP	90,414	1,682,792	18,612	2.96%
	PSPP	37,157	286,338	7,706	3.37%
2015	TLPP	47,979	1,103,163	22,993	1.30%
	TRP	0	0	0	N/A
	PERP	94,704	1,143,883	12,079	1.60%
2016	TLPP	49,336	1,142,552	23,159	0.72%
	TRP	1	0	0	N/A
	PERP	100,011	1,218,115	12,180	0.84%

(continued)



SCHEDULE OF RETIRED MEMBER VALUATION DATA *(continued)*

Actuarial Valuation July 1		Number	Annual Allowances In Thousands	Average Annual Allowances	Average Annual Percentage Increase In Annual Allowances
2017	TLPP	50,230	1,187,624	23,644	2.09%
	TRP	2	2	797	N/A
	PERP	103,277	1,286,131	12,453	2.24%
2018	TLPP	50,922	1,227,139	24,098	1.92%
	TRP	3	2	801	0.50%
	PERP	106,448	1,353,198	12,712	2.08%
2019	TLPP	52,400	1,285,073	24,524	1.77%
	TRP	12	22	1,830	128.35%
	PERP	110,655	1,429,232	12,916	1.60%

SCHEDULE OF RETIRED MEMBER ACTIVITY

Actuarial Valuation July 1	Added to Rolls		Removed from Rolls		Rolls - End of Year		Percentage Increase in Annual Allowances	Average Annual Allowances	
	No.	Annual Allowances	No.	Annual Allowances	No.				
2009	SETHEEPP	10,677	\$ 212,772	4,826	\$ 64,619	77,310	\$ 1,281,514	14.65%	\$ 16,576
	PSPP	4,752	39,522	2,245	12,559	30,565	205,326	0.1786	6,718
2011	SETHEEPP	10,090	233,149	4,359	56,689	83,041	1,457,974	13.77%	17,557
	PSPP	4,955	47,632	1,976	11,048	33,544	241,910	17.82%	7,212
2013	SETHEEPP	12,199	289,437	4,826	64,619	90,414	1,682,792	15.42%	18,612
	PSPP	5,858	56,987	2,245	12,559	37,157	286,338	18.37%	7,706
2015	TLPP	6,582	167,537	2,376	45,115	47,979	1,103,163	12.48%	22,993
	TRP	0	0	0	0	0	0	N/A	N/A
	PERP	15,885	203,829	4,979	48,335	94,704	1,143,883	15.73%	12,079
2016	TLPP	2,305	58,165	948	18,776	49,336	1,142,552	3.57%	23,159
	TRP	1	0	0	0	1	0	N/A	0
	PERP	7,884	100,366	2,577	26,134	100,011	1,218,115	6.49%	12,180
2017	TLPP	2,137	69,114	1,243	24,042	50,230	1,187,624	3.94%	23,644
	TRP	1	1	0	0	2	2	237.95%	797
	PERP	6,538	102,361	3,272	34,345	103,277	1,286,131	5.58%	12,453
2018	TLPP	1,805	62,874	1,113	23,359	50,922	1,227,139	3.33%	24,098
	TRP	1	0	0	0	3	2	50.75%	801
	PERP	6,127	99,291	2,956	32,224	106,448	1,353,198	5.21%	12,712
2019	TLPP	2,671	83,451	1,193	25,517	52,400	1,285,073	4.72%	24,524
	TRP	9	20	0	0	12	22	813.41%	1,830
	PERP	7,458	112,062	3,251	36,028	110,655	1,429,232	5.62%	12,916

SETHEEPP - State Employees, Teachers, Higher Education Employees Pension Plan
 PSPP - Political Subdivisions Pension Plan
 TLPP - Teacher Legacy Pension Plan
 TRP - Teacher Retirement Plan
 PERP - Public Employee Retirement Plan

Legislative changes modified the plans presented beginning July 1, 2014. The July 1, 2015 Actuarial Valuation was the first performed after this change.

Note: Timing differences exist between the data utilized for statistical information and that used for actuarial valuation purposes.



**ACTUARIAL BALANCE SHEET
as of July 1, 2019**

	<u>Teacher Legacy Pension Plan</u>	<u>Teacher Retirement Plan</u>	<u>Public Employee Retirement Plan</u>	<u>Total</u>
ASSETS				
Present assets creditable to:				
Employer accumulation fund	\$ 20,861,679,028	\$ 75,992,562	\$ 24,299,369,335	\$ 45,237,040,925
Members' accumulation fund	3,565,099,372	167,631,099	1,793,130,565	5,525,861,036
Total present assets	<u>24,426,778,400</u>	<u>243,623,661</u>	<u>26,092,499,900</u>	<u>50,762,901,961</u>
Present value of prospective contributions payable to:				
Employer accumulation fund				
Normal	1,578,560,131	189,082,774	2,870,916,057	4,638,558,962
Accrued liability	<u>(421,138,310)</u>	<u>1,094,161</u>	<u>1,722,513,721</u>	<u>1,302,469,572</u>
Total employer accumulation	<u>1,157,421,821</u>	<u>190,176,935</u>	<u>4,593,429,778</u>	<u>5,941,028,534</u>
Member's accumulation fund	<u>1,564,556,663</u>	<u>733,389,446</u>	<u>1,313,533,307</u>	<u>3,611,479,416</u>
Total prospective contributions	<u>2,721,978,484</u>	<u>923,566,381</u>	<u>5,906,963,085</u>	<u>9,552,507,950</u>
TOTAL ASSETS	<u><u>\$ 27,148,756,884</u></u>	<u><u>\$ 1,167,190,042</u></u>	<u><u>\$ 31,999,462,985</u></u>	<u><u>\$ 60,315,409,911</u></u>
LIABILITIES				
Present value of prospective benefits payable on account of:				
Present retired members and beneficiaries	\$ 14,317,139,222	\$ 292,444	\$ 15,281,392,873	\$ 29,598,824,539
Present active members	12,293,190,447	1,144,213,527	14,696,247,849	28,133,651,823
Former members	538,427,215	22,684,071	2,021,822,263	2,582,933,549
TOTAL LIABILITIES	<u><u>\$ 27,148,756,884</u></u>	<u><u>\$ 1,167,190,042</u></u>	<u><u>\$ 31,999,462,985</u></u>	<u><u>\$ 60,315,409,911</u></u>



Short-Term Solvency Test

The financing objective of the Tennessee Consolidated Retirement System is to pay for the benefits provided by the plan through contributions that remain approximately level from year to year as a percentage of payroll, except that the strategy to fund the unfunded accrued liability is to make level-dollar payments over an established amortization period. A short-term solvency test is one means of checking a system's progress under its funding program. In a short-term solvency test, the plan's present assets are compared with: (1) active member contributions on deposit; (2) the liabilities for future benefits to present retired lives; and (3)

the liabilities for service already rendered by active members. In a system that has been following the approach of level percent of payroll financing for some time, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) should be fully covered by present assets. In addition, the liabilities for service already rendered by active members (liability 3) should be partially covered by the remainder of present assets. Generally, if the system has been using level cost financing, the funded portion of liability 3 will increase over time.

Dollar Amounts Expressed in Millions

Actuarial Accrued Liabilities for:

Portion of Actuarial Accrued Liabilities Covered by Assets

	Actuarial Valuation July 1	Actuarial Accrued Liabilities for:			Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets		
		(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members (Employer Financed)		(1)	(2)	(3)
2009	SETHEEP	\$ 3,559.8	\$ 14,122.8	\$ 11,372.4	\$ 26,335.2	100%	100%	76%
	PSPP	1,011.3	2,190.0	2,942.4	5,304.5	100%	100%	71%
	Total	\$ 4,571.1	\$ 16,312.8	\$ 14,314.8	\$ 31,639.7	100%	100%	75%
2011	SETHEEP	\$ 3,707.0	\$ 15,941.3	\$ 13,059.3	\$ 30,118.2	100%	100%	80%
	PSPP	1,100.8	2,560.6	3,700.3	6,562.6	100%	100%	78%
	Total	\$ 4,807.8	\$ 18,501.9	\$ 16,759.6	\$ 36,680.8	100%	100%	80%
2013	SETHEEP	\$ 3,759.9	\$ 18,747.4	\$ 11,616.3	\$ 31,851.0	100%	100%	80%
	PSPP	1,196.3	3,075.7	3,517.8	7,398.3	100%	100%	89%
	Total	\$ 4,956.2	\$ 21,823.1	\$ 15,134.1	\$ 39,249.3	100%	100%	82%
2015	TLPP	\$ 3,340.9	\$ 12,534.5	\$ 5,433.7	\$ 21,040.2	100%	100%	95%
	TRP	10.4	0.0	4.3	15.7	100%	100%	100%
	PERP	1,753.7	12,202.0	9,292.9	21,682.8	100%	100%	83%
	Total	\$ 5,105.0	\$ 24,736.5	\$ 14,730.9	\$ 42,738.7	100%	100%	88%
2016	TLPP	\$ 3,229.3	\$ 12,858.9	\$ 5,728.3	\$ 21,681.8	100%	100%	98%
	TRP	32.6	0.0	15.0	49.9	100%	100%	100%
	PERP	1,606.6	12,944.2	9,554.9	22,512.8	100%	100%	83%
	Total	\$ 4,868.5	\$ 25,803.1	\$ 15,298.2	\$ 44,244.5	100%	100%	89%
2017	TLPP	\$ 3,351.8	\$ 13,485.7	\$ 6,003.4	\$ 22,330.7	100%	100%	92%
	TRP	66.0	0.0	32.4	96.1	100%	100%	93%
	PERP	1,640.8	13,940.9	10,231.2	23,379.2	100%	100%	76%
	Total	\$ 5,058.6	\$ 27,426.6	\$ 16,267.0	\$ 45,806.0	100%	100%	82%
2018	TLPP	\$ 3,509.6	\$ 13,754.8	\$ 6,412.1	\$ 23,172.7	100%	100%	92%
	TRP	111.5	0.0	56.7	159.9	100%	100%	85%
	PERP	1,706.8	14,539.1	10,618.9	24,520.1	100%	100%	78%
	Total	\$ 5,327.9	\$ 28,294.0	\$ 17,087.7	\$ 47,852.7	100%	100%	80%
2019	TLPP	\$ 3,565.1	\$ 14,317.1	\$ 6,123.4	\$ 24,426.8	100%	100%	100%
	TRP	167.6	0.3	76.8	243.6	100%	100%	99%
	PERP	1,793.1	15,281.4	10,740.5	26,092.5	100%	100%	84%
	Total	\$ 5,525.8	\$ 29,598.8	\$ 16,940.7	\$ 50,762.9	100%	100%	92%



The unfunded accrued liability represents the excess of the accrued actuarial liability over the actuarial value of assets. For funding purposes, the Board of Trustees of TCRS has adopted the frozen initial liability method.

Under this method, the unfunded accrued liability is being funded by level-dollar contributions. Also, actuarial gains and losses are absorbed in normal cost rather than as part of the unfunded liability. The statute governing TCRS allows the Board of Trustees to reestablish the unfunded accrued liability for actuarial gains and losses.

For the July 1, 2013 actuarial valuation, the Board reestablished the unfunded accrued liability. In an inflationary economy where the

covered payroll continues to grow, the level-dollar amounts which are being contributed to fund the unfunded accrued liability will, if expressed as a percentage of payroll, continue to decrease.

While concern is generally expressed regarding the dollar amount of the unfunded accrued liability, an analysis should also include the method being used to fund this liability as well as a review of this liability expressed as a percentage of active member payroll. The smaller the ratio of unfunded liabilities to the active member payroll, the stronger the system. A review of this ratio over a period of years will give an indication of whether the system is becoming financially stronger or weaker with respect to its unfunded liabilities.

SUMMARY OF ACCRUED AND UNFUNDED ACCRUED LIABILITIES

Dollar Amounts Expressed in Millions

Actuarial Valuation Jun 30	Actuarial Accrued Liabilities (AAL)	Valuation Assets	Ratio Assets to AAL	Unfunded Actuarial Accrued Liabilities (UAAL)	Active Member Payroll	UAAL as a Percentage of Active Member Payroll
2009						
SETHEEP	\$ 29,055.0	\$ 26,335.2	90.64%	\$ 2,719.8	\$ 6,054.5	44.92%
PSPP	\$ 6,143.7	\$ 5,304.5	86.34%	\$ 839.2	\$ 2,282.1	36.77%
2011						
SETHEEP	\$ 32,707.6	\$ 30,118.2	92.08%	\$ 2,589.4	\$ 6,058.3	42.74%
PSPP	\$ 7,361.7	\$ 6,562.6	89.15%	\$ 799.1	\$ 2,354.9	33.93%
2013						
SETHEEP	\$ 34,123.6	\$ 31,851.0	93.34%	\$ 2,272.6	\$ 6,236.9	36.44%
PSPP	\$ 7,789.8	\$ 7,398.3	94.97%	\$ 391.5	\$ 2,375.0	16.49%
2015						
TLPP	\$ 21,309.1	\$ 21,040.2	98.74%	\$ 268.9	\$ 3,542.1	7.59%
TRP	\$ 14.7	\$ 15.7	106.80%	\$ (1.0)	\$ 239.5	-0.42%
PERP	\$ 23,248.6	\$ 21,682.8	93.26%	\$ 1,565.8	\$ 5,009.6	31.26%
2016						
TLPP	\$ 21,816.5	\$ 21,681.8	99.38%	\$ 134.7	\$ 3,465.9	3.89%
TRP	\$ 47.6	\$ 49.9	104.83%	\$ (2.3)	\$ 493.2	-0.47%
PERP	\$ 24,105.7	\$ 22,512.8	93.39%	\$ 1,592.9	\$ 5,262.4	30.27%
2017						
TLPP	\$ 22,840.9	\$ 22,330.7	102.28%	\$ (510.2)	\$ 3,414.7	-14.94%
TRP	\$ 98.4	\$ 96.1	97.66%	\$ 2.3	\$ 715.0	0.32%
PERP	\$ 25,812.9	\$ 23,379.2	90.57%	\$ 2,433.7	\$ 5,598.0	43.47%
2018						
TLPP	\$ 23,676.6	\$ 23,172.7	97.87%	\$ 503.9	\$ 3,460.7	14.56%
TRP	\$ 168.2	\$ 159.9	95.09%	\$ 8.3	\$ 958.2	0.86%
PERP	\$ 26,864.8	\$ 24,520.1	91.27%	\$ 2,344.7	\$ 5,857.4	40.03%
2019						
TLPP	\$ 24,005.6	\$ 24,426.8	101.75%	\$ (421.1)	\$ 3,248.2	-12.97%
TRP	\$ 244.7	\$ 243.6	99.55%	\$ 1.1	\$ 1,130.0	0.10%
PERP	\$ 27,815.0	\$ 26,092.5	93.81%	\$ 1,722.5	\$ 6,095.1	28.26%



SELECTED ACTUARIAL FUNDING INFORMATION

Actuarial Valuation Year	Earnings Assumptions	Salary Assumptions	Unfunded Liability (Asset)		State Amortization Period
			SETHEEP	PSPP	
2009	7.50%	4.75% (2)	2,719,767,478	839,320,076	20
2011	7.50%	4.75% (2)	2,589,446,292	799,102,966	9
2013	7.50%	4.25% (2)	2,272,526,399	391,589,555	13

Actuarial Valuation Year	Earnings Assumptions	Salary Assumptions	Unfunded Liability (Asset)			State Amortization Period
			TLPP	TRP	PERP	
2015	(3) 7.50%	4.25% (2)	\$ 268,857,872	\$ (1,092,784)	\$ 1,565,808,774	14.37 (1)
2016	7.50%	4.25% (2)	134,716,133	(2,323,148)	1,592,928,253	8.46 (1)
2017	7.25%	4.00% (2)	(510,205,267)	2,307,714	2,433,632,446	13.64 (1)
2018	7.25%	4.00% (2)	503,884,213	8,253,746	2,344,674,537	12.85 (1)
2019	7.25%	4.00% (2)	(421,138,310)	1,094,161	1,722,513,721	9.51 (1)

Notes:

(1) At each actuarial valuation, the new tier of unfunded liability is established over a period not to exceed 20 years per the TCRS funding policy. The tier for prior years is amortized over a period not to exceed the remaining period.

(2) Graded scale

(3) The information in this schedule is based upon legislative changes. The legislative changes modified the plans presented beginning July 1, 2014.



GAIN AND LOSS ANALYSIS, JUNE 30, 2019 VALUATION

	Consolidated State	Teacher
Contribution Rate	19.80%	10.63%
Effective Employer Contribution Rate Pursuant to 2018 Valuation		
Investment Results	-0.98%	-1.02%
Salary Increases: The annual weighted-average of salary increase during the 2018-2019 period was above the assumed age-based rate used in preparing the 2018 valuation report. This resulted in an increase in the contribution rate	0.00%	-0.49%
New Entrants: Since the Legacy Plan closed in new entrants effective June 30, 2014 there is no impact on the contribution rate for new entrants	0.00%	0.00%
Cost of Living Escalation: COLA in 2019 was 1.9%, which is less than the assumed 2.25% per year	-0.15%	-0.13%
Prior Service Purchases: Employee purchases of prior service credits result in liabilities to the plan that are not fully offset by related employee contributions	0.10%	0.10%
Contribution Rate Change Delay: Since the contribution rate utilized during the fiscal year ending June 30, 2019 (from the 2017 valuation) for the State group was lower than the rate produced from the 2018 valuation, there was an increase in the current contribution rate for the Stage group to make up for the one-year delay.	0.04%	0.01%
Effect of turnover on total payroll: Total payroll declined during the review period for both groups as the reduction due to turnover was greater than the growth due to salary increases. The lower payroll base led to an increase in the contribution rate for both groups.	0.41%	0.19%
Update Mortality Projection: The mortality improvement assumption adopted with the 2016 experience study utilizes the most current scale published by the Society of Actuaries. As of June 30, 2019 the projection scale was updated from Sacle MP-2017 to Scale MP-2018	-0.05%	-0.04%
Other	-0.09%	-0.39%
Subtotal	-0.72%	-1.77%
End of amortization for 2013 tier	0.00%	-1.32%
Re-amortization of unfunded liability	1.29%	2.73%
Effective Employer Contribution Rate Pursuant to 2019 Valuation	20.37%	10.27%

ACTUARIAL VS. RECOMMENDED CONTRIBUTION RATES

The Board adopted the contribution rates as recommended by the actuary.



HISTORY AND ADMINISTRATION

The TCRS was established in 1972 by an Act of the Tennessee General Assembly. Seven existing retirement systems were consolidated to provide retirement, disability and death benefits to state employees, public school teachers, higher education employees and the employees of participating local governments. State laws governing the plan may be found in Chapters 34-37, 39 of Title 8, Tennessee Code Annotated. Amendments to the plan can only be made by legislation enacted by the General Assembly of the State of Tennessee.

A 20-member Board of Trustees has the responsibility to manage and oversee the operation of the consolidated system. The Board consists of nine ex-officio members from the executive, legislative and judicial branches of state government, nine representatives of the active TCRS membership and two representatives for retirees. Employee representation consists of three teachers, one from each grand division of the state; two state employees from departments other than those represented by ex-officio members; three representatives of local governments; one public safety officer; one retired state employee representative; and one retired teacher representative. Local government representatives are appointed for two-year terms by each of the following organizations: the Tennessee County Services Association, the Tennessee Municipal League and the Tennessee County Officials Association. All employee representatives must be vested members of TCRS.

TCRS is administered by the Treasury Department under the legislative branch of state government. By state law, the State Treasurer serves as chairman of the Board of Trustees and as custodian of the funds of the system. The Director of the retirement system is appointed by the Treasurer and serves as the chief administrative officer of the plan.

The state is responsible for the pension cost of state employees; pension costs for teachers are the responsibility of the local education agencies

in Tennessee; costs for the participation of local government employees are paid by political subdivisions. Administrative expenses are paid from employers' account balances. The operating budget is funded through fees charged to the employer.

MEMBERSHIP

Membership in the retirement system is a condition of employment for full-time state employees, K-12 teachers, higher education general employees and the employees of participating local governments. Membership is optional for part-time state employees and the part-time employees of political subdivisions which have authorized such coverage.

Interim teachers and part-time teachers have optional membership. The exempt faculty and staff of institutions of higher education may elect participation in either TCRS or an optional retirement program (ORP), a defined contribution plan for higher education faculty.

State employees, higher education employees and K-12 public school teachers hired after June 30, 2014 will participate in a Hybrid Pension Plan for State Employees and Teachers.

CONTRIBUTIONS

TCRS membership became noncontributory on July 1, 1981 for most state employees, teachers in state supported institutions of higher education and teachers employed in the Department of Education. At that time, the contributions, up to 5.0 percent of compensation payable to these employees, were assumed by the state, but this amount continued to be credited to the individual members' accounts from employer funds. State employees hired after July 1, 1981 join TCRS as noncontributory members with no funds credited to their individual accounts. Public school teachers contribute at a rate of 5.0 percent of gross salary. State employees, teachers in state supported institutions of higher education and teachers employed by the Department of Education hired after June 30, 2014 contribute at a rate of 5.0 percent of gross salary.

(continued)



Participating political subdivisions may either adopt noncontributory retirement provisions or require employee contributions, at 2.5% or 5.0% of salary. The contribution rate for local government employees is 5.0 percent up to the Social Security wage base and 5.5 percent above that base, unless the employing government has authorized a level 5.0 percent rate.

Individual accounts are maintained for all contributory members with interest credited annually at a rate of 5.0 percent. Since TCRS is a defined benefit plan, benefits are based upon the member's average final compensation and years of creditable service. The member's account balance including interest accrued has no bearing on the monthly benefit amount payable at retirement. Account balances plus interest are fully refundable upon termination of service or death.

Contributory members are covered by Section 414(h) of the Internal Revenue Code. Under this provision, retirement contributions are made on a tax-deferred basis, with income tax due only when contributions are returned to members as benefits or refunds. Political subdivisions may adopt the 414(h) provision for their employees.

The state also makes contributions on behalf of higher education faculty members who select membership in the ORP. These contributions are equal to 10 percent of salary up to Social Security wage base and 11 percent of any excess salary.

For ORP participants hired after June 30, 2014, the state contributes 9.0 percent of salary to the ORP. The employee contributes 5.0 percent of gross salary to the ORP.

BENEFITS

General

TCRS provides three valuable benefits to its members: disability, death and service retirement benefits. Disability benefits are available to qualified TCRS members who become totally and permanently disabled before meeting the requirements for service retirement. Two types of disability retirement are available: ordinary and accidental.

To qualify for ordinary disability, a member must have a minimum of five years of TCRS service credit. The ordinary disability benefit is equal to 90 percent of what the member would receive under service retirement. If a disabled retiree has less than 20 years of service credit, the service is projected to age 60 or 20 years, whichever comes first. When service is projected, the actual and projected service combined cannot exceed 20 years. If the member's actual service credit exceeds 20 years, the benefit is based on actual service only.

There is no minimum service requirement to qualify for an accidental disability benefit. However, the disability must be the result of a job-related accident that occurs without negligence on the part of the member during the performance of duty. Prior to the onset of Social Security benefits, an accidental disability benefit is equal to 50 percent of the member's average final compensation (AFC). Once Social Security benefits begin, the accidental benefit is 33.3 percent of AFC. For members joining TCRS on or after July 1, 1997, accidental disability benefits are determined in the same manner as ordinary disability using the projection of service method. Disability benefits are increased by 5.0 percent for state employees, teachers and employees of participating political subdivisions which have authorized the 5.0 percent benefit improvement. The accidental benefit is adjusted if the member's combined benefits from Social Security and/or workers' compensation exceed 75 percent of his AFC.

(continued)



One of several death benefits may be payable to the designated beneficiary of an active member who dies prior to retirement. The type of death benefit payable will be determined by whether or not death occurred while in service, who is named as beneficiary and the member's length of service.

A member may designate one or more persons, his estate, an institution or any combination of such as his beneficiary. However, estates and institutions are only eligible for a lump-sum refund of the member's accumulated contributions and interest unless one of the beneficiaries named is the surviving spouse. Other death benefits offered by TCRS include a 100 percent Joint and Surviving Spouse Annuity for certain vested members, a 100 percent Joint and Survivor Annuity for any beneficiary under certain conditions and a Line-of-Duty Benefit. Any beneficiary of a member who had ten years of service and who is eligible for a lump-sum death benefit may elect a benefit to be paid over ten years.

Legacy Plan for Members Before July 1, 2014

All members hired prior to July 1, 2014, with the exception of state judges, joining TCRS after 1976 entered the same membership group. The benefit formula for this group provides 1.5 percent of AFC computed over five years for each year of service credit. If a member's AFC exceeds the Social Security integration level (SSIL) applicable at retirement, the formula provides an additional .25 percent of the amount of the excess for each service year. These benefits are increased by 5.0 percent for state employees, teachers and employees of participating political subdivisions which have authorized the 5.0 percent benefit improvement. State judges joining TCRS after September 1, 1990 become Group IV members. The benefit formula for Group IV members is 2.5 percent of AFC computed over five years for each year of service credit.

Members become eligible for regular service retirement at age 60 if vested or at any age with 30 years of service. Vested members are eligible for reduced early retirement benefits when they have reached age 55 or have completed 25 years of service. Members joining TCRS after June 30, 1979 attain vesting rights after five years of service; the vesting period for members who joined prior to July 1, 1979 is four years. Five-year vesting and 25-year retirement are benefits that are optional to local governments. Otherwise, vesting for local governments is ten years of service.

Hybrid Plan for Members After June 30, 2014

State employees, higher education employees and K-12 teachers, with the exception of state judges, the State Attorney General, elected District Attorneys General, and elected Public Defenders, becoming members after June 30, 2014 enter the same membership group. The benefit formula for this group provides 1.0 percent of AFC computed over five years for each year of service credit. The benefit formula for State judges, the State Attorney General, elected District Attorneys General, and elected Public Defenders provides 1.6 percent of AFC computed over five years for each year of service credit. Local governments have the option to join the State and Teacher Hybrid Retirement Plan. The hybrid plan also has a defined contribution component.

Members become eligible for regular service retirement at age 65 if vested or the Rule of 90. The Rule of 90 refers to a combination of age and service that total 90. Vested members are eligible for reduced early retirement benefits at age 60 if vested or the Rule of 80. Members attain vesting rights after five years of service.



SERVICES FOR ACTIVE MEMBERS

TCRS provides a number of services for active members through its various sections. Member self-service is available at www.mytcrs.com. Detailed member information, salary and service history, and the ability to request a benefit estimate or apply for retirement benefits is available on the secured portal.

Outreach

- TCRS contracts with Empower Retirement Services to conduct employee presentations on all aspects of the retirement system.
- Employer seminars are conducted annually to educate payroll officers on legislation affecting TCRS and inform them of the employer contribution rates effective for the next fiscal year.

Membership

- Comprehensive membership statements are provided to all members annually at mytcrs.com.
- Welcome packets are mailed to all new members.
- Membership guides are available to members on the TCRS website.
- Member self-service can be accessed at www.mytcrs.com in order to update contact and beneficiary information.

Prior Service

- An automated calculation and eligibility system generates billings for members who wish to establish prior service.
- An installment program is available to purchase certain types of prior service.
- Prior Service may be purchased with a rollover from a tax-deferred 401(a) plan, 401(k) plan, 403(b) plan, 457 plan or a traditional or Roth IRA.

Benefits

- RetireReady TN website - TCRS and Deferred Compensation Information
- Customer Service Call Center
- Counseling Services - Retirement Counselors available to meet in all regions of the state

SERVICES FOR RETIRED MEMBERS

A number of services are made available to TCRS retirees.

- Retiree identification cards
- Semiannual retiree newsletter: The Retiree Advisor
- Direct deposit or debit card payments
- Deduction of medical insurance
- Deduction of dental insurance
- Deduction of Medicare supplement coverage
- Income tax information
- Certification of monthly benefits
- Certification of student discounts
- Retiree self-service at www.mytcrs.com allows a member to update account information, view and change direct deposit and tax withholding information, and a number of other easy actions.

SERVICES FOR EMPLOYERS

- Accounting entries, notes, and required supplementary information regarding pensions to comply with GASB Standard 68 are available online at publicreports.treasury.tn.gov
- Actuarial Report
- Employer education regarding reporting and participation in TCRS.



**TCRS Legacy Plan and Social Security Benefits
for Calendar Year 2020**

Five-Year AFC*	Projected Annual Retirement Income	15 Years Service	% of AFC	20 Years Service	% of AFC	25 Years Service	% of AFC	30 Years Service	% of AFC	35 Years Service	% of AFC
\$30,000	TCRS	\$ 7,088		\$ 9,450		\$ 11,813		\$ 14,175		\$ 16,538	
	Social Security	15,072		15,072		15,072		15,072		15,072	
	Total	\$ 22,160	73.9%	\$ 24,522	81.7%	\$ 26,885	89.6%	\$ 29,247	97.5%	\$ 31,610	105.4%
\$40,000	TCRS	\$ 9,450		\$ 12,600		\$ 15,750		\$ 18,900		\$ 22,050	
	Social Security	18,072		18,072		18,072		18,072		18,072	
	Total	\$ 27,522	68.8%	\$ 30,672	76.7%	\$ 33,822	84.6%	\$ 36,972	92.4%	\$ 40,122	100.3%
\$50,000	TCRS	\$ 11,813		\$ 15,750		\$ 19,688		\$ 23,625		\$ 27,563	
	Social Security	21,084		21,084		21,084		21,084		21,084	
	Total	\$ 32,897	65.8%	\$ 36,834	73.7%	\$ 40,772	81.5%	\$ 44,709	89.4%	\$ 48,647	97.3%
\$60,000	TCRS	\$ 14,175		\$ 18,900		\$ 23,625		\$ 28,350		\$ 33,075	
	Social Security	24,096		24,096		24,096		24,096		24,096	
	Total	\$ 38,271	63.8%	\$ 42,996	71.7%	\$ 47,721	79.5%	\$ 52,446	87.4%	\$ 57,171	95.3%
\$70,000	TCRS	\$ 16,538		\$ 22,050		\$ 27,563		\$ 33,075		\$ 38,588	
	Social Security	26,604		26,604		26,604		26,604		26,604	
	Total	\$ 43,142	61.6%	\$ 48,654	69.5%	\$ 54,167	77.4%	\$ 59,679	85.3%	\$ 65,192	93.1%

**TCRS Hybrid Plan and Social Security Benefits
for Calendar Year 2020**

Five-Year AFC*	Projected Annual Retirement Income	15 Years Service	% of AFC	20 Years Service	% of AFC	25 Years Service	% of AFC	30 Years Service	% of AFC	35 Years Service	% of AFC
\$30,000	TCRS	\$ 4,500		\$ 6,000		\$ 7,500		\$ 9,000		\$ 10,500	
	Social Security	15,072		15,072		15,072		15,072		15,072	
	Total	\$ 19,572	65.2%	\$ 21,072	70.2%	\$ 22,572	75.2%	\$ 24,072	80.2%	\$ 25,572	85.2%
\$40,000	TCRS	\$ 6,000		\$ 8,000		\$ 10,000		\$ 12,000		\$ 14,000	
	Social Security	18,072		18,072		18,072		18,072		18,072	
	Total	\$ 24,072	60.2%	\$ 26,072	65.2%	\$ 28,072	70.2%	\$ 30,072	75.2%	\$ 32,072	80.2%
\$50,000	TCRS	\$ 7,500		\$ 10,000		\$ 12,500		\$ 15,000		\$ 17,500	
	Social Security	21,084		21,084		21,084		21,084		21,084	
	Total	\$ 28,584	57.2%	\$ 31,084	62.2%	\$ 33,584	67.2%	\$ 36,084	72.2%	\$ 38,584	77.2%
\$60,000	TCRS	\$ 9,000		\$ 12,000		\$ 15,000		\$ 18,000		\$ 21,000	
	Social Security	24,096		24,096		24,096		24,096		24,096	
	Total	\$ 33,096	55.2%	\$ 36,096	60.2%	\$ 39,096	65.2%	\$ 42,096	70.2%	\$ 45,096	75.2%
\$70,000	TCRS	\$ 10,500		\$ 14,000		\$ 17,500		\$ 21,000		\$ 24,500	
	Social Security	26,604		26,604		26,604		26,604		26,604	
	Total	\$ 37,104	53.0%	\$ 40,604	58.0%	\$ 44,104	63.0%	\$ 47,604	68.0%	\$ 51,104	73.0%

* Average Final Compensation

A key component of the Hybrid Plan is a 401(k) plan, which allows the member to invest pre-tax or after-tax (Roth) dollars in investment options of his or her choice that are offered by the plan. A member is immediately vested in the 401(k) and can decide how the contributions should be invested given individual goals, risk tolerance, and timeline. The amount a member receives in retirement from his or her 401(k) account is based on the amount saved, plus any accumulated earnings from investments. The employer contributes 5% of the employee's earnable compensation directly to the 401(k) for the member to invest.

This chart is based on a date of retirement in 2020. Social security benefits have been calculated by Findley, Inc., actuarial consultants for the TCRS, utilizing the following assumptions: (1) retirement is taking place at age 65 in 2020; (2) the retiree has worked a full career (TCRS plus other employers, if necessary) of 35 years or more; and (3) salary increases throughout the retiree's career have followed the same pattern as National Average Earnings.

**1972**

Benefit formula improved from 1.12 percent of salary up to the SSIL to 1.5 percent of salary up to the SSIL.

1973

Annual cost-of-living increase based on the CPI with a cap of 1.5 percent adopted for retirees.

1974

Disability retirement eligibility requirement reduced from ten years to five years of service.

Maximum annual cost-of-living increase raised to 3.0 percent.

Provision to increase retirees' benefits whenever the benefit formula is improved.

Service credit authorized for unused accumulated sick leave.

1976

Service retirement eligibility requirements reduced from age 65 or 35 years of service to age 60 or 30 years of service.

Early retirement eligibility requirements reduced from age 60 or 30 years of service to age 55.

1978

A bonus cost-of-living increase granted to retirees at a lump-sum cost of \$15.3 million.

An optional retirement plan established for teachers in the Board of Regents system.

1980

Death benefits for members dying in-service with ten years of service improved by offering a 100 percent joint and survivor annuity of the member's accrued benefit for the spouse.

1981

Noncontributory retirement for state employees and higher education employees adopted. Employees' contributions, up to 5.0 percent, were assumed by the state.

1983

An actuarially-reduced retirement benefit at any age with 25 years of service authorized.

1984

Credit for out-of-state service for the purpose of determining retirement eligibility authorized.

Retirement credit for armed conflict approved.

Part-time employees permitted to participate in TCRS and members allowed to establish credit for previous part-time employment.

1985

\$22 million ad-hoc increase granted to retirees.

1987

Service credit for half of peacetime military service made available.

\$17 million ad-hoc increase granted to retirees.

Retirement incentive for state employees.

Section 414(h) of the IRC adopted, allowing employee contributions to be made on a tax-deferred basis.

1990

Retirement incentive for state employees.

1991

3.6 percent indexing of salaries for noncontributory employees extended one year. Each succeeding year up to 1997, the 3.6 percent indexing was extended. In 1997, it was extended indefinitely.

(continued)



1992

Minimum number of years required to qualify for retirement was reduced from ten years to five years.

1993

Salary portability for service in different classifications authorized effective January 1, 1994.

Benefit improvement up to 5.0 percent authorized.

1997

Compounded COLA for retirees approved.

1998

Group 2 and Group 3 service requirements amended to permit service retirement with 30 years of service, regardless of age.

Group 1 and Prior Class C benefit limitations increased to 80 percent.

Mandatory retirement established with supplemental bridge benefit for all state public safety officers.

1999

Group 1 benefit maximum increased to 90 percent.

2000

Group 2 benefit maximum increased to 80 percent.

2001

Line-of-Duty Death Benefits adopted to guarantee a minimum \$50,000 death benefit.

2005

Return-to-Work statutes were reformed, including a temporary employment increase to 120 days.

2006

Ad-hoc increase granted to members retired prior to 1989.

2007

Public Safety Officer benefits were enhanced.

2012

New pension plan design options offered to local governments.

2013

Hybrid retirement plan enacted for state employees and teachers hired after July 1, 2014.

2014

Allow teachers participating in the Legacy Pension Plan to transfer membership prospectively to the Hybrid Retirement Plan.

2016

Qualified Domestic Relations Orders (QDROs) recognized by the retirement system.

Allow employees of political subdivision's that transferred to the Hybrid Retirement Plan to transfer membership prospectively to the Hybrid Retirement Plan if the employee contributions are the same.

2017

Allow members to designate multiple beneficiaries at retirement.

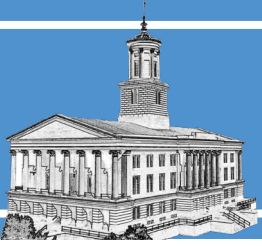
2019

Added 25-year early retirement option for all public safety officers.

Changed service requirement for some death benefits from 10 years to vesting.

2020

Added 25-year early retirement option for all correctional officers and emergency medical service employees.



Statistical Section

Statistical Introduction

Historical Fair Value

Analysis of Member, Employer, and Stabilization Reserves

Schedules of Changes in Net Position

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Retired Members by Geographical Distribution

Average Benefit Payments Schedule

Prior Service Established

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Schedules of Principal Participating Employers

Introduction to Political Subdivision Participation

Optional Provisions for Political Subdivisions

Local Government Plan Options

Political Subdivision Participants





STATISTICAL SECTION OVERVIEW

The statistical section presents additional information to provide financial statement users with added historical perspective, context, and detail to assist in using the information in the financial statements, notes to the financial statements, and required supplementary information to understand and assess the system's financial condition.

FINANCIAL TRENDS

The schedules presented on pages 94-97 show financial trends information that assists users in understanding and assessing how the system's financial position has changed over time. The financial trend schedules presented are:

- Historical Fair Value
- Analysis of Member and Employer Reserves
- Schedules of Changes in Net Position
- Schedules of Benefit Expenses

OPERATING INFORMATION

The remaining schedules presented on pages 98-129 contain benefits, service, and employer data to help the reader understand how the System's financial report relates to the services of the system and the activities it performs. In addition, a description of political subdivision participation and a listing of participating entities have been included in this section.



HISTORICAL FAIR VALUE
FISCAL YEARS 2011-2020
Expressed in Thousands

As of June 30	Fair Value
2011	\$ 33,663,308
2012	34,912,773
2013	37,564,905
2014	42,905,157
2015	43,243,941
2016	43,306,209
2017	47,014,252
2018	49,722,596
2019	52,134,631
2020	53,349,554



ANALYSIS OF RESERVES
FOR THE YEAR ENDED JUNE 30, 2020



The legislation which created the TCRS established two funds, the Member Reserve Fund and the Employer Reserve Fund, to account for the financial transactions of the pension plans. The Member Reserve Fund represents the accumulation of employee contributions plus interest. The Employer Reserve Fund represents the accumulation of employer contributions, investment income and transfers from the Member Reserve Fund for retirees. Benefit payments and interest credited to members' accounts are reductions to the Employer Reserve Fund. The Stabilization Reserve was created effective July 1, 2014 as part of the benefit plan adopted under the Teacher Retirement Plan and for employers under the Public Employee Retirement Plan that have adopted the new benefit structure. Under these plans, contributions in excess of the actuarially determined contribution (ADC) rate are set aside in this reserve to help keep contribution rates stable. Effective July 1, 2018, future contributions to the stabilization reserve are held in a separate trust outside of TCRS and therefore are not reflected on this schedule.

	Public Employee Retirement Plan	Teacher Retirement Plan	Teacher Legacy Pension Plan	Total
<i>June 30, 2019 Member Reserve Fund</i>	\$ 1,757,121,620	\$ 167,575,936	\$ 3,563,652,525	\$ 5,488,350,081
Member Contributions	149,828,745	63,182,574	167,155,248	380,166,567
Employer Provided Contributions	6,466,140	180	12,107	6,478,427
Interest	80,370,943	8,311,713	170,351,013	259,033,669
Refunded Account Balances	(23,184,329)	(3,594,749)	(17,972,119)	(44,751,197)
Transfers to Employer Fund of Retiring Members' Accounts	(116,012,061)	(144,977)	(166,796,792)	(282,953,830)
<i>June 30, 2020 Member Reserve Fund</i>	1,854,591,058	235,330,677	3,716,401,982	5,806,323,717
<i>June 30, 2019 Employer Reserve Fund</i>	24,986,500,187	78,210,679	21,475,238,142	46,539,949,008
Employer Contributions	735,609,961	25,616,933	353,767,319	1,114,994,213
Employer Refunds	(2,454)	0	0	(2,454)
Other Contributions	1,405,946	0	0	1,405,946
Investment Income	1,304,101,014	14,199,456	1,215,904,780	2,534,205,250
Transfers from Retiring Members' Account	116,012,061	144,977	166,796,792	282,953,830
Employer Provided Contributions	(6,466,140)	(180)	(12,107)	(6,478,427)
Interest Credited to Members' Account	(80,370,943)	(8,311,713)	(170,351,013)	(259,033,669)
Lump-Sum Death Benefits	(2,878,966)	(67,276)	(1,773,110)	(4,719,352)
Retirement and Survivors Annuities	(1,457,234,426)	(33,203)	(1,295,168,443)	(2,752,436,072)
Administrative Expenses	(12,347,707)	(2,295,363)	(4,571,565)	(19,214,635)
<i>June 30, 2020 Employer Reserve Fund</i>	25,584,328,533	107,464,310	21,739,830,795	47,431,623,638
<i>June 30, 2019 Stabilization Reserve Fund</i>	50,929,207	55,402,861	0	106,332,068
Investment Income	2,526,134	2,748,031	0	5,274,165
<i>June 30, 2020 Stabilization Reserve Fund</i>	53,455,341	58,150,892	0	111,606,233
<i>June 30, 2020 Assets held in Trust for Pension Benefits</i>	\$ 27,492,374,932	\$ 400,945,879	\$ 25,456,232,777	\$ 53,349,553,588



SCHEDULES OF CHANGES IN NET POSITION
Expressed in Thousands

Year Ending	Additions				Deductions			Total Change in Net Position
	Member Contributions	Employer Contributions	Other Contributions	Investment Income	Benefit Payments	Administrative Expenses	Refunds	
Public Employee Retirement Plan								
6/30/2020	\$ 149,829	\$ 735,610	\$ 1,406	\$ 1,306,627	\$ 1,460,114	\$ 12,348	\$ 23,186	\$ 697,824
6/30/2019	138,197	730,655	2,479	1,877,223	1,393,511	12,654	24,055	1,318,334
6/30/2018	121,257	739,160	2,604	1,973,039	1,320,077	13,268	21,135	1,481,580
6/30/2017	106,509	662,559	2,458	2,473,302	1,255,600	11,748	21,030	1,956,450
6/30/2016	90,919	655,525	2,158	581,363	1,196,884	12,466	22,812	97,803
6/30/2015	77,020	664,834	384	664,440	1,121,540	9,148	25,790	250,200
6/30/2014	75,030	686,219	0	3,105,782	1,046,202	7,294	31,720	2,781,815
Teacher Retirement Plan								
6/30/2020	\$ 63,183	\$ 25,617	\$ 0	\$ 16,947	\$ 100	\$ 2,295	\$ 3,595	\$ 99,757
6/30/2019	52,930	20,529	0	18,476	23	2,018	2,184	87,710
6/30/2018	43,731	34,957	0	13,554	31	1,847	1,598	88,766
6/30/2017	32,848	26,262	0	10,058	6	1,417	1,015	66,730
6/30/2016	21,856	17,539	0	1,012	0	820	284	39,303
6/30/2015	10,390	8,310	0	295	0	280	35	18,680
6/30/2014	0	0	0	0	0	0	0	0
Teacher Legacy Pension Plan								
6/30/2020	\$ 167,155	\$ 353,767	\$ 0	\$ 1,215,905	\$ 1,296,941	\$ 4,572	\$ 17,972	\$ 417,342
6/30/2019	168,919	350,734	0	1,759,946	1,251,885	5,202	16,521	1,005,991
6/30/2018	176,442	318,337	0	1,867,630	1,200,195	5,789	18,427	1,137,998
6/30/2017	177,940	319,576	0	2,365,587	1,154,994	5,347	17,899	1,684,863
6/30/2016	181,763	327,522	0	560,785	1,115,822	6,894	22,192	(74,838)
6/30/2015	187,122	338,301	0	646,527	1,074,274	5,636	22,136	69,904
6/30/2014	195,521	348,475	0	3,054,118	1,014,688	2,663	22,326	2,558,437

As a result of plan reporting changes due to legislative enactments and GASB pronouncements, historical information is available for seven years. Additional years will be added in the future.



SCHEDULES OF BENEFIT EXPENSES

Expressed in Thousands

<u>Year Ending</u>	<u>Service Retirement</u>	<u>Disability Retirement</u>	<u>Survivor Benefits</u>	<u>Death Benefits</u>	<u>Total Benefits</u>	<u>Refunds</u>	<u>Total</u>
Public Employee Retirement Plan							
6/30/2020	\$ 1,330,665	\$ 34,437	\$ 92,133	\$ 2,879	\$ 1,460,114	\$ 23,186	\$ 1,483,300
6/30/2019	1,269,879	32,864	87,924	2,844	1,393,511	24,055	1,417,566
6/30/2018	1,203,055	31,135	83,297	2,590	1,320,077	21,135	1,341,212
6/30/2017	1,143,181	29,585	79,152	3,682	1,255,600	21,030	1,276,630
6/30/2016	1,089,920	28,207	75,464	3,293	1,196,884	22,812	1,219,696
6/30/2015	1,021,247	26,430	70,709	3,154	1,121,540	25,790	1,147,330
6/30/2014	953,255	24,670	66,002	2,275	1,046,202	31,720	1,077,922
Teacher Retirement Plan							
6/30/2020	\$ 30	\$ 1	\$ 2	\$ 67	\$ 100	\$ 3,595	\$ 3,695
6/30/2019	6	0	1	16	23	2,184	2,207
6/30/2018	2	0	0	29	31	1,598	1,629
6/30/2017	1	0	0	5	6	1,015	1,021
6/30/2016	0	0	0	0	0	284	284
6/30/2015	0	0	0	0	0	35	35
6/30/2014	0	0	0	0	0	0	0
Teacher Legacy Pension Plan							
6/30/2020	\$ 1,182,674	\$ 30,608	\$ 81,886	\$ 1,773	\$ 1,296,941	\$ 17,972	\$ 1,314,913
6/30/2019	1,140,760	29,523	78,984	2,618	1,251,885	16,521	1,268,406
6/30/2018	1,093,439	28,299	75,708	2,749	1,200,195	18,427	1,218,622
6/30/2017	1,052,681	27,244	72,885	2,184	1,154,994	17,899	1,172,893
6/30/2016	1,016,794	26,315	70,401	2,312	1,115,822	22,192	1,138,014
6/30/2015	978,801	25,331	67,771	2,371	1,074,274	22,136	1,096,410
6/30/2014	925,061	23,940	64,050	1,637	1,014,688	22,326	1,037,014

As a result of plan reporting changes due to legislative enactments and GASB pronouncements, historical information is available for seven years. Additional years will be added in the future.



SCHEDULE OF ACTIVE MEMBERS
FOR THE YEAR ENDED JUNE 30, 2020



SCHEDULES OF ACTIVE MEMBERS
by Service Credit

Years of Service	Teachers Legacy Pension Plan	Public Employee Legacy Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
0 - 4	411	356	134	26,444	27,345
5 - 9	10,739	5,312	2,872	15,238	34,161
10 - 14	13,330	5,185	2,561	12,300	33,376
15 - 19	11,199	5,083	1,793	9,314	27,389
20 - 24	9,216	3,442	1,246	7,286	21,190
25 - 29	5,401	2,075	904	3,787	12,167
30 - 34	2,015	1,431	533	1,981	5,960
35 - 39	809	816	312	722	2,659
40 - 44	273	345	151	347	1,116
Over 44	93	117	83	80	373
Total	53,486	24,162	10,589	77,499	165,736

Years of Service	Teachers Hybrid Retirement Plan	Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
0-4	19,494	14,517	6,678	4,768	45,457
5-9	5,898	2,205	1,040	416	9,559
10-14	631	255	90	154	1,130
15-19	252	118	38	90	498
20-24	94	48	14	42	198
25-29	25	18	12	16	71
30-34	6	6	4	9	25
35-39	1	0	0	2	3
40-44	1	3	0	0	4
Over 44	0	0	0	1	1
Total	26,402	17,170	7,876	5,498	56,946

TCRS is a consolidated plan, therefore, employees shown on the hybrid schedule with more than 4 years of service worked for an employer prior to the implementation of the hybrid plan design.



SCHEDULES OF ACTIVE MEMBERS
By Enrollment Date

Date of Membership	Teachers Legacy Pension Plan		Public Employee Legacy Pension Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees		
1940's	0	0	1	0	1	
1950's	0	0	0	1	1	
1960's	22	18	18	4	62	
1970's	320	382	219	290	1,211	
1980's	2,952	2,610	1,012	2,476	9,050	
1990's	14,450	5,734	2,169	10,709	33,062	
2000's	23,850	9,889	4,014	20,765	58,518	
2010's	11,845	5,511	3,147	39,770	60,273	
2020's	47	18	9	3,484	3,558	
Total	53,486	24,162	10,589	77,499	165,736	

Date of Membership	Teachers Hybrid Retirement Plan		Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Public Subdivision Employees		
1940's	0	0	0	0	0	
1950's	0	0	0	0	0	
1960's	0	0	0	0	0	
1970's	1	1	0	1	3	
1980's	5	6	3	12	26	
1990's	49	78	30	69	226	
2000's	393	293	95	201	982	
2010's	25,354	14,840	7,084	4,582	51,860	
2020's	600	1,952	664	633	3,849	
Total	26,402	17,170	7,876	5,498	56,946	



SCHEDULES OF ACTIVE MEMBERS
FOR THE YEAR ENDED JUNE 30, 2020



SCHEDULES OF ACTIVE MEMBERS
By Current Age

Current Age	Teacher Legacy Pension Plan	Public Employee Legacy Pension Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Less than 20	0	0	0	107	107
20-24	4	10	0	2,495	2,509
25-29	345	223	53	5,470	6,091
30-34	5,254	1,366	481	6,447	13,548
35-39	7,964	2,233	871	7,067	18,135
40-44	9,391	3,061	1,162	8,317	21,931
45-49	10,230	3,594	1,442	9,977	25,243
50-54	9,091	3,928	1,605	11,128	25,752
55-59	5,981	4,148	1,937	11,264	23,330
60-64	3,786	3,318	1,787	8,885	17,776
65-69	1,131	1,563	858	4,024	7,576
70 and above	309	718	393	2,318	3,738
Total	53,486	24,162	10,589	77,499	165,736

Current Age	Teachers Hybrid Pension Plan	Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Less than 20	2	47	4	37	90
20-24	1,803	1,292	321	470	3,886
25-29	8,623	3,666	1,220	834	14,343
30-34	5,251	3,109	1,275	746	10,381
35-39	3,142	2,238	1,117	724	7,221
40-44	2,522	1,760	963	672	5,917
45-49	2,049	1,587	912	592	5,140
50-54	1,539	1,321	784	547	4,191
55-59	890	1,152	651	431	3,124
60-64	440	713	461	300	1,914
65-69	119	211	118	109	557
70 and above	22	74	50	36	182
Total	26,402	17,170	7,876	5,498	56,946



SCHEDULES OF ACTIVE MEMBERS
By Age at Enrollment

Age at Enrollment	Teachers Legacy Pension Plan	Public Employee Legacy Pension Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Less than 20	99	544	143	1,287	2,073
20 - 24	19,187	4,957	1,743	11,542	37,429
25 - 29	15,481	6,117	2,079	12,754	36,431
30 - 34	7,414	3,748	1,675	11,244	24,081
35 - 39	5,304	3,095	1,476	11,224	21,099
40 - 44	3,336	2,328	1,255	9,620	16,539
45 - 49	1,529	1,604	986	7,539	11,658
50 - 54	697	958	719	5,442	7,816
55 - 59	262	541	344	3,784	4,931
60 - 64	114	189	131	1,919	2,353
65 - 69	50	63	29	778	920
70 and above	13	18	9	366	406
Total	53,486	24,162	10,589	77,499	165,736

Age at Enrollment	Teachers Hybrid Pension Plan	Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Less than 20	9	208	36	102	355
20 - 24	8,349	3,031	855	848	13,083
25 - 29	6,427	3,903	1,386	922	12,638
30 - 34	3,334	2,498	1,247	708	7,787
35 - 39	2,704	1,981	1,074	703	6,462
40 - 44	2,137	1,579	891	585	5,192
45 - 49	1,636	1,390	827	570	4,423
50 - 54	992	1,180	728	438	3,338
55 - 59	575	873	515	361	2,324
60 - 64	187	400	242	169	998
65 - 69	43	101	49	73	266
70 and above	9	26	26	19	80
Total	26,402	17,170	7,876	5,498	56,946



SCHEDULES OF ACTIVE MEMBERS
FOR THE YEAR ENDED JUNE 30, 2020



SCHEDULES OF ACTIVE MEMBERS
By Salary

<u>Annual Salary</u>	<u>Teachers Legacy Pension Plan</u>		<u>Public Employee Legacy Pension Plan</u>		<u>Total</u>
	<u>Teachers</u>	<u>State Employees</u>	<u>Higher Education Employees</u>	<u>Political Subdivision Employees</u>	
Less than \$10,000	29	114	38	3,309	3,490
\$10,000-\$19,999	106	176	88	15,093	15,463
\$20,000-\$29,999	349	875	743	15,512	17,479
\$30,000-\$39,999	738	4,108	2,043	15,694	22,583
\$40,000-\$49,999	11,125	5,151	2,196	12,498	30,970
\$50,000+	41,139	13,738	5,481	15,393	75,751
Total	53,486	24,162	10,589	77,499	165,736

<u>Annual Salary</u>	<u>Teachers Hybrid Pension Plan</u>		<u>Public Employee Hybrid Retirement Plan</u>		<u>Total</u>
	<u>Teachers</u>	<u>State Employees</u>	<u>Higher Education Employees</u>	<u>Political Subdivision Employees</u>	
Less than \$10,000	109	1,164	314	595	2,182
\$10,000-\$19,999	548	1,361	591	1,535	4,035
\$20,000-\$29,999	799	2,289	1,429	1,105	5,622
\$30,000-\$39,999	4,505	4,682	1,862	965	12,014
\$40,000-\$49,999	13,616	3,491	1,530	751	19,388
\$50,000+	6,825	4,183	2,150	547	13,705
Total	26,402	17,170	7,876	5,498	56,946



ACTIVE MEMBERS
Fiscal Years 2011-2020

Year	Teacher Legacy Pension Plan	Teachers Retirement Plan	Public Employee Retirement Plan						Total
	Teachers	Teachers (Hybrid)	State Employees	State Employees (Hybrid)	Higher Education Employees	Higher Education Employees (Hybrid)	Political Subdivision Employees	Political Subdivision Employees (Hybrid)	
2011	79,583	0	42,142	0	16,409	0	81,780	0	219,914
2012	73,449	0	42,171	0	16,693	0	78,180	0	210,493
2013	73,306	0	41,856	0	16,590	0	77,815	0	209,567
2014	78,506	0	40,581	0	16,829	0	78,144	0	214,060
2015	69,230	11,516	38,322	6,304	16,244	2,310	87,800	52	231,778
2016	65,614	11,159	33,070	8,208	14,439	2,966	77,546	712	213,714
2017	61,844	15,329	30,036	11,014	13,206	4,293	77,086	1,692	214,500
2018	59,026	19,417	27,844	13,192	12,228	5,625	77,162	2,940	217,434
2019	55,884	23,032	25,812	15,139	11,356	6,781	77,239	4,320	219,563
2020	53,486	26,402	24,162	17,170	10,589	7,876	77,499	5,498	222,682



SCHEDULE OF RETIRED MEMBERS
By Type of Benefit Plan

Benefit Plan	Teachers Legacy Pension Plan	Public Employee Legacy Pension Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Regular	32,497	21,182	10,638	32,823	97,140
Option I	4,595	6,388	3,464	7,713	22,160
Option II	1,533	1,621	964	1,720	5,838
Option III	5,768	5,703	2,254	6,272	19,997
Option IV	4,149	3,059	1,479	2,569	11,256
S.S. Leveling	4,345	2,629	722	2,146	9,842
Others	34	99	7	50	190
Total	52,921	40,681	19,528	53,293	166,423

Benefit Plan	Teacher Hybrid Retirement Plan	Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Regular	20	18	8	4	50
Option I	4	3	3	5	15
Option II	0	0	0	1	1
Option III	0	5	0	3	8
Option IV	1	0	1	0	2
S.S. Leveling	0	0	0	0	0
Others	0	0	0	0	0
Total	25	26	12	13	76



SCHEDULE OF RETIRED MEMBERS
By Type of Retirement

Type of Retirement	Teachers Legacy Pension Plan	Public Employee Legacy Pension Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Early Retirement	6,588	5,593	2,955	7,558	22,694
Service Retirement	44,667	32,243	15,516	42,248	134,674
Disability	1,301	1,974	706	2,687	6,668
Total Retirees	52,556	39,810	19,177	52,493	164,036
Survivors	365	871	351	800	2,387
Total	52,921	40,681	19,528	53,293	166,423

Type of Retirement	Teachers Hybrid Retirement Plan	Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Early Retirement	9	12	6	5	32
Service Retirement	15	12	6	7	40
Disability	1	0	0	1	2
Total Retirees	25	24	12	13	74
Survivors	0	2	0	0	2
Total	25	26	12	13	76



SCHEDULES OF RETIRED MEMBERS
FOR THE YEAR ENDED JUNE 30, 2020



SCHEDULE OF RETIRED MEMBERS
By Average Monthly Benefits

TEACHERS LEGACY PENSION PLAN

Average Monthly Benefit	Type of Retirement					Option Selected						
	Number of Retirees	Service	Early	Disability	Survivor	Regular	I	II	III	IV	SS	
											Leveling	Other
0-500	4,580	3,587	861	96	36	2,846	551	156	553	268	203	3
501-1,000	6,098	3,858	1,837	316	87	3,614	744	189	756	458	328	9
1,001-1,500	7,068	4,655	1,816	534	63	4,081	759	227	857	563	570	11
1,501-2,000	8,741	7,222	1,206	251	62	4,683	745	212	1,111	680	1,304	6
2,001-2,500	9,810	9,118	571	75	46	5,927	696	230	1,144	856	957	0
2,501-3,000	7,455	7,212	195	23	25	4,972	419	203	692	624	544	1
3,001-3,500	4,183	4,101	57	3	22	2,909	297	125	304	296	249	3
3,501-4,000	2,222	2,180	28	2	12	1,535	166	70	172	159	119	1
Over 4,000	2,764	2,735	16	1	12	1,965	219	121	161	225	73	0
	52,921	44,668	6,587	1,301	365	32,532	4,596	1,533	5,750	4,129	4,347	34

STATE EMPLOYEES LEGACY PENSION PLAN

Average Monthly Benefit	Type of Retirement					Option Selected						
	Number of Retirees	Service	Early	Disability	Survivor	Regular	I	II	III	IV	SS	
											Leveling	Other
0-500	11,308	8,143	2,332	540	293	6,333	1,873	389	1,539	637	537	0
501-1,000	8,611	5,655	1,782	969	205	4,754	1,435	326	1,118	593	381	4
1,001-1,500	6,104	4,745	864	349	146	3,045	923	243	867	436	588	2
1,501-2,000	4,999	4,476	359	84	80	2,435	650	172	794	411	535	2
2,001-2,500	3,643	3,407	153	24	59	1,820	496	141	507	345	330	4
2,501-3,000	2,222	2,136	51	3	32	1,076	316	110	341	235	140	4
3,001-3,500	1,402	1,359	25	3	15	677	224	70	200	154	69	8
3,501-4,000	825	796	14	0	15	371	147	59	131	87	25	5
Over 4,000	1,567	1,526	13	2	26	705	322	111	188	147	24	70
	40,681	32,243	5,593	1,974	871	21,216	6,386	1,621	5,685	3,045	2,629	99

HIGHER EDUCATION LEGACY PENSION PLAN

Average Monthly Benefit	Type of Retirement					Option Selected						
	Number of Retirees	Service	Early	Disability	Survivor	Regular	I	II	III	IV	SS	
											Leveling	Other
0-500	6,347	4,714	1,301	214	118	3,850	999	226	724	323	223	2
501-1,000	4,089	2,765	915	338	71	2,404	687	180	413	279	125	1
1,001-1,500	2,754	2,185	413	112	44	1,501	460	143	308	219	123	0
1,501-2,000	1,853	1,620	181	27	25	900	314	106	261	175	97	0
2,001-2,500	1,241	1,133	72	12	24	553	226	79	158	161	63	1
2,501-3,000	891	834	41	2	14	398	166	53	127	103	44	0
3,001-3,500	623	594	13	1	15	275	149	39	67	64	29	0
3,501-4,000	462	443	10	0	9	221	98	34	58	44	7	0
Over 4,000	1,268	1,228	9	0	31	547	364	104	131	108	11	3
	19,528	15,516	2,955	706	351	10,649	3,463	964	2,247	1,476	722	7

(continued)



SCHEDULE OF RETIRED MEMBERS
By Average Monthly Benefits (continued)

POLITICAL SUBDIVISION LEGACY PENSION PLAN

Average Monthly Benefit	Number of Retirees	Type of Retirement				Option Selected						
		Service	Early	Disability	Survivor	Regular	I	II	III	IV	SS	
											Leveling	Other
0-500	27,722	21,129	4,806	1,378	409	17,958	3,889	750	3,017	1,150	938	20
501-1,000	12,867	9,853	1,844	965	205	8,341	1,766	384	1,395	566	399	16
1,001-1,500	5,807	4,857	594	276	80	3,309	864	220	777	327	300	10
1,501-2,000	3,005	2,711	194	50	50	1,543	470	124	476	196	194	2
2,001-2,500	1,758	1,651	68	9	30	808	299	99	290	131	130	1
2,501-3,000	931	883	31	5	12	374	180	55	145	74	103	0
3,001-3,500	522	502	11	4	5	234	98	40	62	46	42	0
3,501-4,000	272	259	7	0	6	104	55	23	39	26	24	1
Over 4,000	409	403	3	0	3	201	85	26	40	41	16	0
	53,293	42,248	7,558	2,687	800	32,872	7,706	1,721	6,241	2,557	2,146	50

TEACHER HYBRID RETIREMENT PLAN

Average Monthly Benefit	Number of Retirees	Type of Retirement				Option Selected						
		Service	Early	Disability	Survivor	Regular	I	II	III	IV	SS	
											Leveling	Other
0-500	25	15	9	1	0	20	4	0	0	1	0	0

STATE HYBRID RETIREMENT PLAN

Average Monthly Benefit	Number of Retirees	Type of Retirement				Option Selected						
		Service	Early	Disability	Survivor	Regular	I	II	III	IV	SS	
											Leveling	Other
0-500	25	12	11	0	2	17	3	0	5	0	0	0
501-1,000	1	0	1	0	0	1	0	0	0	0	0	0
Totals	26	12	12	0	2	18	3	0	5	0	0	0

HIGHER EDUCATION HYBRID RETIREMENT PLAN

Average Monthly Benefit	Number of Retirees	Type of Retirement				Option Selected						
		Service	Early	Disability	Survivor	Regular	I	II	III	IV	SS	
											Leveling	Other
0-500	12	6	6	0	0	8	3	0	0	1	0	0

POLITICAL SUBDIVISION HYBRID RETIREMENT PLAN

Average Monthly Benefit	Number of Retirees	Type of Retirement				Option Selected						
		Service	Early	Disability	Survivor	Regular	I	II	III	IV	SS	
											Leveling	Other
0-500	11	5	5	1	0	4	4	1	2	0	0	0
1501-2000	1	1	0	0	0	0	0	0	1	0	0	0
2001-2500	1	1	0	0	0	0	1	0	0	0	0	0
Totals	13	7	5	1	0	4	5	1	3	0	0	0



SCHEDULES OF RETIRED MEMBERS
FOR THE YEAR ENDED JUNE 30, 2020



SCHEDULE OF RETIRED MEMBERS

By Current Age

Current Age	Teachers Legacy Pension Plan	Public Employee Legacy Pension Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Under 40	87	134	53	135	409
40-44	55	106	32	120	313
45-49	122	189	56	233	600
50-54	388	464	174	630	1,656
55-59	2,248	2,477	867	3,068	8,660
60-64	6,920	6,124	2,525	7,980	23,549
65-69	12,545	9,355	4,121	12,608	38,629
70-74	13,584	9,247	4,247	11,705	38,783
75-79	7,902	5,823	3,199	7,844	24,768
80-84	4,576	3,621	2,235	5,048	15,480
85-89	2,812	2,017	1,297	2,682	8,808
90-94	1,288	898	552	966	3,704
95-99	334	202	151	230	917
Over 99	60	24	19	44	147
Total	52,921	40,681	19,528	53,293	166,423

Current Age	Teachers Hybrid Retirement Plan	Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Under 40	0	1	0	0	1
40-44	0	1	0	0	1
45-49	0	0	0	0	0
50-54	2	0	0	1	3
55-59	0	1	1	1	3
60-64	11	10	5	5	31
65-69	11	11	4	5	31
70-74	1	2	2	1	6
Total	25	26	12	13	76



SCHEDULE OF RETIRED MEMBERS

By Date of Retirement

Date of Retirement	Teachers Legacy Pension Plan	Public Employee Legacy Pension Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
1950's	1	0	0	0	1
1960's	14	5	0	0	19
1970's	201	106	26	66	399
1980's	1,696	997	504	857	4,054
1990's	7,489	5,177	2,936	5,181	20,783
2000's	17,975	12,261	6,254	14,877	51,367
2010's	24,831	21,470	9,465	31,164	86,930
2020's	714	665	343	1,148	2,870
Total	52,921	40,681	19,528	53,293	166,423

Date of Retirement	Teachers Hybrid Retirement Plan	Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
2010's	17	16	8	11	52
2020's	8	10	4	2	24
Total	25	26	12	13	76



SCHEDULE OF RETIRED MEMBERS
Based on Service Credit at Retirement

Years Of Service	Teachers Legacy Pension Plan	Public Employee Legacy Pension Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Under 10	4,982	9,331	5,154	18,072	37,539
10-14	4,453	6,171	3,016	9,455	23,095
15-19	4,994	4,584	2,210	7,720	19,508
20-24	6,144	4,403	2,051	6,317	18,915
25-29	7,070	3,989	1,991	4,937	17,987
30-34	15,304	7,167	2,908	4,588	29,967
35-39	6,731	3,007	1,369	1,502	12,609
40-44	2,611	1,392	570	519	5,092
Over 44	632	637	259	183	1,711
Total	52,921	40,681	19,528	53,293	166,423

Years of Service	Teachers Hybrid Retirement Plan	Public Employee Hybrid Retirement Plan			Total
	Teachers	State Employees	Higher Education Employees	Political Subdivision Employees	
Under 10	25	26	12	11	74
30-34	0	0	0	2	2
Total	25	26	12	13	76



RETIRED MEMBERS BY GEOGRAPHICAL DISTRIBUTION
FOR THE YEAR ENDED JUNE 30, 2020



UNITED STATES

Alabama	1,185
Alaska	24
Arizona	206
Arkansas	581
California	273
Colorado	191
Connecticut	30
Delaware	15
District of Columbia	18
Florida	2,239
Georgia	1,645
Hawaii	16
Idaho	29
Illinois	205
Indiana	230
Iowa	47
Kansas	70
Kentucky	1,018
Louisiana	125
Maine	44
Maryland	134
Massachusetts	54
Michigan	175
Minnesota	56
Mississippi	1,680
Missouri	254
Montana	27
Nebraska	21
Nevada	80
New Hampshire	21
New Jersey	45
New Mexico	89
New York	108
North Carolina	908
North Dakota	3

Ohio	267
Oklahoma	117
Oregon	83
Pennsylvania	139
Rhode Island	9
South Carolina	607
South Dakota	22
Tennessee	151,568
Texas	762
Utah	45
Vermont	7
Virginia	743
Washington	97
West Virginia	61
Wisconsin	66
Wyoming	16
Total U.S.	<u><u>166,455</u></u>

INTERNATIONAL COUNTRIES

Australia	3
Bermuda	1
Brazil	3
Canada-Manitoba	1
Canada-New Brunswick	1
Canada-Newfoundland	1
Canada-Ontario	5
Canada-Prince Edward Island	1
Chile	3
Ecuador	1
Egypt	2
France	1
Germany	2
Ghana	1
Greece	3
Ireland	1
Kenya	1
Netherlands	1
Philippines	1
Poland	1
Spain	1
Thailand	3
Total Foreign Countries	<u><u>38</u></u>

U.S. TERRITORIES

Puerto Rico	4
Virgin Islands, U.S.	1
U.S. Minor Outlying	1
Total U.S. Territories	<u><u>6</u></u>

GRAND TOTAL	<u><u>166,499</u></u>
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RETIRED MEMBERS BY GEOGRAPHICAL DISTRIBUTION
FOR THE YEAR ENDED JUNE 30, 2020



TENNESSEE COUNTIES

Anderson	2,160	Hamilton	7,204	Morgan	676
Bedford	907	Hancock	139	Obion	1,024
Benton	502	Hardeman	1,154	Overton	664
Bledsoe	544	Hardin	866	Perry	317
Blount	3,600	Hawkins	2,963	Pickett	172
Bradley	2,167	Haywood	722	Polk	337
Campbell	1,105	Henderson	564	Putnam	3,244
Cannon	425	Henry	1,120	Rhea	846
Carroll	925	Hickman	808	Roane	1,828
Carter	3,711	Houston	145	Robertson	1,661
Cheatham	936	Humphreys	521	Rutherford	5,091
Chester	544	Jackson	317	Scott	615
Claiborne	994	Jefferson	1,595	Sequatchie	410
Clay	178	Johnson	679	Sevier	1,957
Cocke	894	Knox	9,339	Shelby	16,359
Coffee	1,260	Lake	326	Smith	517
Crockett	424	Lauderdale	975	Stewart	438
Cumberland	1,406	Lawrence	1,215	Sullivan	2,596
Davidson	10,656	Lewis	395	Sumner	3,603
Decatur	352	Lincoln	939	Tipton	1,247
DeKalb	525	Loudon	1,183	Trousdale	225
Dickson	1,309	Macon	421	Unicoi	507
Dyer	745	Madison	3,466	Union	326
Fayette	1,144	Marion	679	Van Buren	249
Fentress	565	Marshall	733	Warren	1,141
Franklin	1,060	Maurry	1,797	Washington	2,656
Gibson	1,561	McMinn	1,161	Wayne	487
Giles	644	McNairy	733	Weakley	1,323
Grainger	546	Meigs	205	White	883
Greene	2,672	Monroe	868	Williamson	3,660
Grundy	404	Montgomery	3,960	Wilson	2,806
Hamblen	1,530	Moore	116	Total	151,568



AVERAGE BENEFIT PAYMENT SCHEDULE
Fiscal Year of Retirement

Teacher Legacy Pension Plan

	Years of Service Credit				
	Less than 15	15-19	20-24	25-29	30 or more
2020 Average Monthly Benefit	\$ 581	\$ 1,307	\$ 1,796	\$ 2,307	\$ 3,025
Number of Retirees	163	69	103	75	241
Average Final Salary	\$ 56,820	\$ 58,559	\$ 60,461	\$ 65,972	\$ 66,201
2019 Average Monthly Benefit	\$ 770	\$ 1,204	\$ 1,613	\$ 2,082	\$ 2,803
Number of Retirees	412	199	230	250	665
Average Final Salary	\$ 58,184	\$ 58,049	\$ 60,886	\$ 64,682	\$ 67,925
2018 Average Monthly Benefit	\$ 804	\$ 1,253	\$ 1,744	\$ 2,147	\$ 3,112
Number of Retirees	582	272	309	290	909
Average Final Salary	\$ 4,485	\$ 57,104	\$ 62,145	\$ 61,706	\$ 67,188
2017 Average Monthly Benefit	\$ 754	\$ 1,225	\$ 1,683	\$ 2,251	\$ 3,119
Number of Retirees	584	283	289	280	825
Average Final Salary	\$ 53,410	\$ 54,956	\$ 58,639	\$ 63,731	\$ 65,230
2016 Average Monthly Benefit	\$ 804	\$ 1,294	\$ 1,730	\$ 2,214	\$ 3,075
Number of Retirees	600	326	336	281	884
Average Final Salary	\$ 51,385	\$ 56,287	\$ 59,140	\$ 61,520	\$ 63,283
2015 Average Monthly Benefit	\$ 736	\$ 1,248	\$ 1,728	\$ 2,271	\$ 3,114
Number of Retirees	684	321	307	283	945
Average Final Salary	\$ 9,697	\$ 55,525	\$ 58,747	\$ 62,084	\$ 63,234
2014 Average Monthly Benefit	\$ 671	\$ 1,240	\$ 1,704	\$ 2,117	\$ 2,987
Number of Retirees	638	357	385	358	1,246
Average Final Salary	\$ 50,982	\$ 54,328	\$ 57,409	\$ 57,910	\$ 60,325
2013 Average Monthly Benefit	\$ 619	\$ 1,260	\$ 1,702	\$ 2,137	\$ 3,098
Number of Retirees	642	360	370	384	1,269
Average Final Salary	\$ 49,756	\$ 54,509	\$ 57,178	\$ 58,731	\$ 61,505
2012 Average Monthly Benefit	\$ 674	\$ 1,257	\$ 1,689	\$ 2,136	\$ 3,119
Number of Retirees	628	306	358	387	1,471
Average Final Salary	\$ 48,816	\$ 53,169	\$ 55,664	\$ 57,753	\$ 60,687
2011 Average Monthly Benefit	\$ 653	\$ 1,225	\$ 1,641	\$ 2,144	\$ 3,036
Number of Retirees	510	269	329	352	1,268
Average Final Salary	\$ 48,877	\$ 49,745	\$ 53,377	\$ 56,260	\$ 58,451

Note: This schedule represents the average monthly benefits under the maximum plan of members retiring with an unreduced service retirement benefit. It excludes members retiring with a reduced early retirement benefit or under disability.

(continued)



AVERAGE BENEFIT PAYMENTS SCHEDULE
(CONTINUED)



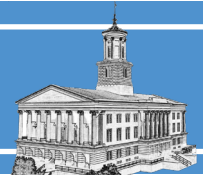
AVERAGE BENEFIT PAYMENT SCHEDULE
Fiscal Year of Retirement (continued)

Public Employee Retirement Plan

		Years of Service Credit				
		Less than 15	15-19	20-24	25-29	30 or more
2020	Average Monthly Benefit	\$ 400	\$ 905	\$ 1,262	\$ 1,649	\$ 2,455
	Number of Retirees	1,057	315	266	163	430
	Average Final Salary	\$ 42,430	\$ 40,801	\$ 42,707	\$ 48,037	\$ 52,747
2019	Average Monthly Benefit	\$ 756	\$ 856	\$ 1,178	\$ 1,445	\$ 2,378
	Number of Retirees	2,129	595	480	389	1,015
	Average Final Salary	\$ 45,695	\$ 40,016	\$ 43,580	\$ 44,277	\$ 56,156
2018	Average Monthly Benefit	\$ 705	\$ 817	\$ 1,090	\$ 1,590	\$ 2,499
	Number of Retirees	2,640	698	508	442	1,140
	Average Final Salary	\$ 42,188	\$ 36,865	\$ 33,836	\$ 46,125	\$ 53,537
2017	Average Monthly Benefit	\$ 676	\$ 844	\$ 1,115	\$ 1,415	\$ 2,463
	Number of Retirees	2,636	676	562	436	1,048
	Average Final Salary	\$ 40,424	\$ 36,554	\$ 39,353	\$ 39,924	\$ 52,417
2016	Average Monthly Benefit	\$ 619	\$ 829	\$ 1,092	\$ 1,443	\$ 2,506
	Number of Retirees	2,894	730	621	531	1,500
	Average Final Salary	\$ 38,187	\$ 35,969	\$ 37,853	\$ 40,131	\$ 52,675
2015	Average Monthly Benefit	\$ 626	\$ 822	\$ 1,175	\$ 1,503	\$ 2,451
	Number of Retirees	3,307	771	570	533	1,186
	Average Final Salary	\$ 37,107	\$ 38,008	\$ 40,286	\$ 42,099	\$ 51,559
2014	Average Monthly Benefit	\$ 577	\$ 766	\$ 1,085	\$ 1,418	\$ 2,415
	Number of Retirees	2,514	673	539	514	1,085
	Average Final Salary	\$ 36,323	\$ 34,283	\$ 37,646	\$ 39,676	\$ 50,969
2013	Average Monthly Benefit	\$ 548	\$ 785	\$ 1,038	\$ 1,504	\$ 2,451
	Number of Retirees	2,516	663	580	573	1,242
	Average Final Salary	\$ 35,783	\$ 33,840	\$ 35,208	\$ 41,695	\$ 51,269
2012	Average Monthly Benefit	\$ 546	\$ 790	\$ 1,026	\$ 1,506	\$ 2,447
	Number of Retirees	2,520	615	544	504	1,118
	Average Final Salary	\$ 35,204	\$ 33,923	\$ 35,260	\$ 41,765	\$ 51,155
2011	Average Monthly Benefit	\$ 583	\$ 779	\$ 1,091	\$ 1,426	\$ 2,410
	Number of Retirees	1,927	524	511	408	975
	Average Final Salary	\$ 36,710	\$ 32,978	\$ 35,652	\$ 40,230	\$ 49,551

Note: This schedule represents the average monthly benefits under the maximum plan of members retiring with an unreduced service retirement benefit. It excludes members retiring with a reduced early retirement benefit or under disability.

(continued)



AVERAGE BENEFIT PAYMENT SCHEDULE
Fiscal Year of Retirement (continued)

Teacher Hybrid Retirement Plan*

		<u>Years of Service Credit</u>	
		<u>Less than 15</u>	
2020	Average Monthly Benefit	\$	244
	Number of Retirees		5
	Average Final Salary	\$	63,113
2019	Average Monthly Benefit	\$	202
	Number of Retirees		7
	Average Final Salary	\$	52,115
2018	Average Monthly Benefit	\$	92
	Number of Retirees		3
	Average Final Salary	\$	56,185
2017	Average Monthly Benefit	\$	95
	Number of Retirees		1
	Average Final Salary	\$	37,094
2016	Average Monthly Benefit	\$	41
	Number of Retirees		1
	Average Final Salary	\$	39,323

Public Employee Hybrid Retirement Plan*

		<u>Years of Service Credit</u>	
		<u>Less than 15</u>	
2020	Average Monthly Benefit	\$	188
	Number of Retirees		8
	Average Final Salary	\$	49,419
2019	Average Monthly Benefit	\$	212
	Number of Retirees		6
	Average Final Salary	\$	57,776
2018	Average Monthly Benefit	\$	52
	Number of Retirees		11
	Average Final Salary	\$	36,684
2016	Average Monthly Benefit	\$	52
	Number of Retirees		2
	Average Final Salary	\$	72,747
2015	Average Monthly Benefit	\$	13
	Number of Retirees		1
	Average Final Salary	\$	43,305

*Because the Hybrid Retirement Plan was effective July 1, 2014, there are no retirees with greater than 15 years of service.

Note: This schedule represents the average monthly benefits under the maximum plan of members retiring with an unreduced service retirement benefit. It excludes members retiring with a reduced early retirement benefit or under disability.



PRIOR SERVICE ESTABLISHED
July 1, 2019 through June 30, 2020

	<u>Type of Service</u>	<u>No. of Members</u>	<u>Years of Service</u>	<u>Amount</u>
Teacher Legacy Pension Plan	Backpayment	22	32	\$ 137,888
	Military	0	0	0
	Redeposit	28	112	659,566
	Totals	50	144	\$ 797,454
Public Employee Legacy Pension Plan	Backpayment	196	257	\$ 1,565,313
	Military	2	2	4,026
	Redeposit	33	160	313,835
	Totals	231	419	\$ 1,883,174
Teacher Hybrid Retirement Plan	Backpayment	3	8	\$ 9,410
	Military	0	0	0
	Redeposit	4	11	51,951
	Totals	7	19	\$ 61,361
Public Employee Hybrid Retirement Plan	Backpayment	22	90	\$ 371,364
	Military	4	2	0
	Redeposit	6	22	71,428
	Totals	32	114	\$ 442,792
Grand Totals	Backpayment	243	387	\$ 2,083,975
	Military	6	4	4,026
	Redeposit	71	305	1,096,780
	Totals	320	696	\$ 3,184,781

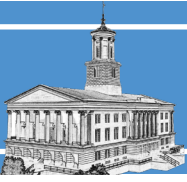


Treasury allows members to establish their prior service by making monthly installment payments in the form of Automated Clearing House (ACH) withdrawals from a designated bank account. Service is credited to the member's account once the balance has been paid off. Examples of service types which are eligible to be purchased through installment payments are previously withdrawn service, peacetime military service, educational leave, and enrollment service for new participating employers. When a member is billed for prior service, a statement is generated showing a lump sum payment. In addition, installment information is given with regard to financing over six (6) to sixty (60) months. The member may elect to finance the entire amount or elect to make a down payment and finance the balance. The member may choose, at any time, to pay off the remaining balance.

PRIOR SERVICE INSTALLMENT ACTIVITY

For the Year Ended June 30, 2020

	<u>Type of Service</u>	<u>No. of Members</u>	<u>Years of Service</u>	<u>Amount</u>
Teacher Legacy Pension Plan	Backpayment	3	10	\$ 2,024
	Military	0	0	0
	Redeposit	20	858	118,650
	Totals	23	868	\$ 120,674
Public Employee Legacy Pension Plan	Backpayment	21	411	\$ 5,625
	Military	0	0	0
	Redeposit	24	1,189	88,056
	Totals	45	1,600	\$ 93,681
Teacher Hybrid Retirement Plan	Backpayment	0	0	\$ 0
	Military	0	0	0
	Redeposit	1	4	1,680
	Totals	1	4	\$ 1,680
Public Employee Hybrid Retirement Plan	Backpayment	2	2	\$ 5,559
	Military	0	0	0
	Redeposit	1	5	1,468
	Totals	3	7	\$ 7,027
Grand Totals:	Backpayment	26	423	\$ 13,208
	Military	0	0	0
	Redeposit	46	2,056	209,854
	Totals	72	2,479	\$ 223,062



REFUND ACTIVITY

For the Year Ended June 30	Number of Refunds Processed	Amount Refunded
2011	4,500	\$ 35,539,393
2012	4,349	40,091,553
2013	4,122	39,517,877
2014	5,683	54,045,937
2015	4,934	47,961,414
2016	4,593	54,392,689
2017	4,583	39,943,710
2018	4,426	41,159,513
2019	4,685	42,759,556
2020	4,844	44,753,651

POLITICAL SUBDIVISION PARTICIPATION

Schedule by Category

Year Ended June 30	Number of Cities	Number of Counties	Political Subdivisions	Total
2011	176	89	218	483
2012	178	89	221	488
2013	177	88	222	487
2014	177	88	224	489
2015	178	87	232	497
2016	179	87	235	501
2017	181	87	257	525
2018	206	97	285	588
2019	209	90	273	572
2020	199	89	287	575



HISTORICAL EMPLOYER CONTRIBUTION RATES
Expressed as a Percentage of Salary

Year Ended	State Employees		Teachers	
	Legacy	Hybrid	Legacy	Hybrid
June 30				
2011	14.91%	N/A	9.05%	N/A
2012	14.91%	N/A	9.05%	N/A
2013	15.03%	N/A	8.88%	N/A
2014	15.03%	N/A	8.88%	N/A
2015	15.03%	4.00%	9.04%	4.00%
2016	15.03%	4.00%	9.04%	4.00%
2017	15.02%	4.00%	9.04%	4.00%
2018	18.87%	4.00%	9.08%	4.00%
2019*	19.23%	1.66%	10.46%	1.94%
2020*	19.66%	1.73%	10.63%	2.03%

The employer contribution rates for political subdivisions are individually determined based on the biennial actuarial valuation of each political subdivision.

*The contribution rates shown for 2019 and 2020 for the State Employee and Teacher Hybrid Retirement Plans are the actuarially determined contribution rates (ADC). Employers participating in the Hybrid Retirement Plans are required to contribute the greater of 4.00% or the ADC. Contributions in excess of the ADC are held in a separate Stabilization Reserve Trust on behalf of the employer.



PRINCIPAL PARTICIPATING EMPLOYERS
Current Year and Nine Years Ago

Teacher Legacy Pension Plan

	2020				2011		
	Covered Employees	Rank	Percentage of Total System		Covered Employees	Rank	Percentage of Total System
Participating Government				Participating Government			
Shelby County Schools	4,488	1	8.39%	Teachers*	79,583	N/A	100.00%
Davidson County Schools	3,647	2	6.82%		-	2	0.00%
Knox County Schools	3,212	3	6.01%		-	3	0.00%
Rutherford County Schools	2,347	4	4.39%		-	4	0.00%
Hamilton County Schools	2,105	5	3.94%		-	5	0.00%
Williamson County Schools	1,853	6	3.46%		-	6	0.00%
Montgomery County Schools	1,524	7	2.85%		-	7	0.00%
Sumner County Schools	1,498	8	2.80%		-	8	0.00%
Sevier County Schools	902	9	1.69%		-	9	0.00%
Wilson County Schools	778	10	1.45%		-	10	0.00%
Others	31,132		58.20%	Others	-		0.00%
Total	53,486		100.00%	Total	79,583		100.00%

*TCRS changed pension administration systems in 2014. Access to detailed data for Teachers from fiscal years 2011-2014 is no longer available.

Public Employee Legacy Pension Plan

	2020				2011		
	Covered Employees	Rank	Percentage of Total System		Covered Employees	Rank	Percentage of Total System
Participating Government				Participating Government			
State	34,074	1	30.36%	State	58,551	1	41.62%
Shelby County Unified School District	4,369	2	3.89%	Memphis City Schools	8,361	2	5.94%
Rutherford County	2,804	3	2.50%	Hamilton County	6,239	3	4.44%
Williamson County	2,736	4	2.44%	Shelby County Board of Ed	3,764	4	2.68%
Sumner County	2,204	5	1.96%	Sumner County	3,673	8	2.61%
Hamilton County	1,854	6	1.65%	Williamson County	3,497	5	2.49%
Montgomery County	1,713	7	1.53%	Rutherford County	3,493	6	2.48%
Wilson County	1,346	8	1.20%	Montgomery County	3,289	7	2.34%
Sevier County	1,339	9	1.19%	Sullivan County	2,496	9	1.77%
Clarksville	1,237	10	1.10%	Johnson City	2,066	10	1.47%
Others	58,574		52.18%	Others	45,239		32.16%
Total	112,250		100.00%	Total	140,668		100.00%

(continued)



PRINCIPAL PARTICIPATING EMPLOYERS
Current Year and Nine Years Ago
(continued)

	Teacher Hybrid Retirement Plan¹		
	2020		
	Covered Employees	Rank	Percentage of Total System
<u>Participating Government</u>			
Shelby County Schools	2,785	1	10.55%
Davidson County Schools	2,114	2	8.01%
Knox County Schools	1,592	3	6.03%
Hamilton County Schools	1,396	4	5.29%
Williamson County Schools	1,372	5	5.20%
Rutherford County Schools	1,211	6	4.59%
Montgomery County Schools	1,142	7	4.33%
Sumner County Schools	629	8	2.38%
Wilson County Schools	518	9	1.96%
Davidson County Federal	389	10	1.46%
Others	13,254		50.20%
Total	26,402		100.00%

	Public Employee Hybrid Retirement Plan¹		
	2020		
	Covered Employees	Rank	Percentage of Total System
<u>Participating Government</u>			
State Employee Hybrid	24,994	1	81.83%
Hamilton County-Hybrid	1,148	2	3.76%
Montgomery County - Hybrid	1,058	3	3.46%
Bradley County - Hybrid	307	4	1.01%
Jefferson County - Hybrid	247	5	0.81%
Others	2,790		9.13%
Total	30,544		100.00%

¹The Teacher Retirement Plan and Public Employee Retirement Plan - Hybrid became effective for teachers July 1, 2014, therefore, therefore applicable information for nine years ago is not available.



Participants

TCRS has established pension plans for four groups of public employees: state employees, higher education employees, teachers and the employees of governmental entities (political subdivisions). Employees of political subdivisions may participate in TCRS if the entity’s governing body authorizes participation and accepts all liability associated with coverage for their employees.

Participation is subject to the approval of the Board of Trustees. At June 30, 2020, there were 575 political subdivisions participating in TCRS.

Participation as of June 30, 2020:

Cities	199
Counties	89
Utility Districts	81
Special School Districts/Boards of Education*	36
Joint Ventures	17
Housing Authorities	14
911 Emergency Communication Districts	62
Miscellaneous Authorities	<u>77</u>
Total	575

*Local Education Agencies participate through Local Governing bodies. Only Boards of Education participating separately from Counties or Cities are indicated in participation of political subdivisions.

Administration

TCRS administers the pension plan for political subdivisions in accordance with state statute. Each employer is responsible for the pension cost for its employees. The cost is not shared with other political subdivisions nor with the state. A separate fund balance is maintained by the retirement system for each participating political subdivision and employer contribution rates are determined individually.

Application

To apply for TCRS participation, the chief governing body of the political subdivision must first pass a resolution authorizing an actuarial study to estimate the potential cost of participation. Once the governing body has had an opportunity to review the estimated pension cost and liability, a second resolution must then be passed in order to authorize TCRS participation. Political subdivisions electing TCRS coverage accept the liability for pension benefits to be accrued by their employees.

Coverage

A political subdivision is required to offer coverage under the same terms and conditions to all the employees of each of its departments and agencies.

Political subdivisions have the option of purchasing or allowing their employees to purchase retirement credit for service rendered prior to the employer’s date of participation. The amount of prior service allowed may be limited.

Political subdivisions opting to join TCRS do so under the plan provisions that exist at the time of their participation. Subsequent legislative changes, however, are optional if they result in increased cost to the political subdivision. These optional improvements may be adopted by resolutions approved by the chief governing body.

TCRS PROVIDES
THE ADMINISTRATION
OF A RETIREMENT
PROGRAM FOR 575
LOCAL GOVERNMENTS.



Membership

- Optional membership for part-time employees
- Reduce vesting requirement to qualify for retirement benefits from 10 years to five years
- Increase vesting requirement to qualify for retirement benefits from five years to 10 years (only applicable if in Legacy plan)

Contributions

- Employee contributions at a level five percent both below and above the Social Security wage base
- Exclusion of employee contributions from taxable income under 414(h) provisions of the Internal Revenue Code
- Noncontributory retirement plan
- Discontinue noncontributory retirement plan and implement contributory retirement plan for new employees
- Extension of 3.6 percent indexing feature for noncontributory members' salaries used in calculating the average final compensation

Creditable Service

- Service credit for unused sick leave
- Service credit for military service during periods of armed conflict at no cost to the employee
- Service credit for periods of temporary disability during which the employee was receiving workers' compensation payments based on covered employment
- Service credit purchase for peacetime military service between October 15, 1940 and May 7, 1975
- Purchase of service credit for probation period

Survivor Benefits

- 100 percent joint and survivor spouse death benefit for members with 10 years of service. May be reduced from 10 years to vested status.
- Provide inactive members with certain death and disability benefits
- 50 percent of five year average salary benefits for surviving spouse for members killed in the line of duty

Retirement Benefits

- Provide current retirees and members a five percent increase in base retirement benefit
- Discontinue five percent increase in base retirement benefit for new employees
- The actuarial equivalent of an age 65 benefit for employees retiring after age 65. Only applicable for the legacy plan design and does not apply for those becoming members of the legacy plan after July 1, 2011.
- 25-year retirement with actuarially reduced benefits
- Minimum benefit level increase to \$8, \$14, \$20 per year of service
- Mandatory retirement with supplemental bridge benefit for public safety officers
- Service retirement at age 55 with 25 years of service for public safety officers
- Discontinue enhanced public safety officer benefits for new public safety officers

Retired Members

- Exclusion of cost-of-living adjustments at the date of participation for all employees or at a later date for new employees
- Compounded cost-of-living adjustment (COLA) to current and future retirees



**Tennessee Consolidated Retirement System
Local Government Plan Options
Effective July 1, 2012**

Original Defined Benefit Plan

- Calculation includes a 1.50% multiplier
- Benefit Formula: Years of Service x AFC x 1.50% + 5% Benefit Improvement
- Retirement Requirements:
 - ◆ Service Retirement: An unreduced benefit if the member is age 60 and vested or has thirty (30) years of service regardless of age
 - ◆ Early Retirement: A reduced benefit if the member is age 55 and vested
 - ◆ 25-Year Early: A reduced benefit if the member is under the age of 55 and has at least 25 years of service

Alternate Defined Benefit Plan

- Calculation includes a 1.40% multiplier
- Benefit Formula: Years of Service x AFC x 1.40%
- Retirement Requirements:
 - ◆ Service Retirement: An unreduced benefit if the member is age 65 and vested, or meets the “Rule of 90” (years of service plus age at retirement equal 90 or above)
 - ◆ Early Retirement: A reduced benefit if the member is age 60 and vested, or meets the “Rule of 80” (years of service plus age at retirement equal 80 or above, but equal less than 90)

Local Government Hybrid Plan

- Calculation includes a 1.00% multiplier
- Benefit Formula: Years of Service x AFC x 1.00%
- Retirement Requirements:
 - ◆ Service Retirement: An unreduced benefit if the member is age 65 and vested, or meets the “Rule of 90” (years of service plus age at retirement equal 90 or above)
 - ◆ Early Retirement: A reduced benefit if the member is age 60 and vested, or meets the “Rule of 80” (years of service plus age at retirement equal 80 or above, but equal less than 90)

Employee Contribution Funding Options

(Applicable to all plans listed above.)

- Employer may elect to pay 0.0%, 2.5% or 5.0% of employee contributions

(continued)



**Tennessee Consolidated Retirement System
State and Teacher Hybrid Plan (Optional for Local Governments)
Effective July 1, 2014**

- Calculation includes a 1.00% multiplier
- Benefit Formula: Years of Service x AFC x 1.00%
- Retirement Requirements:
 - ◆ Service Retirement: An unreduced benefit if the member is age 65 and vested, or meets the “Rule of 90” (years of service plus age at retirement equal 90 or above)
 - ◆ Early Retirement: A reduced benefit if the member is age 60 and vested, or meets the “Rule of 80” (years of service plus age at retirement equal 80 or above, but equal less than 90)
- Contribution Rates:
 - ◆ Employee Contribution Rate: 5.00%
 - ◆ Employer Contribution Rate: 4.00%
- Unfunded Liability Controls:
 - ◆ If Defined Benefit component employer cost exceeds 4% of payroll or if the target unfunded liabilities are exceeded for the Defined Benefit component plan, the following adjustments will automatically occur in the following sequence:
 - ◇ Utilize funds in the actuarial stabilization account
 - ◇ Reduce or suspend the maximum 3% annual COLA
 - ◇ Shift some or all of the Defined Contribution employer contribution to the Defined Benefit plan
 - ◇ Increase employee contribution to Defined Benefit plan by 1% of payroll
 - ◇ Reduce future service accrual below 1%
 - ◇ Freeze plan, no future accruals

When employer cost is restored to 4% of payroll and unfunded liabilities do not exceed target maximum unfunded liabilities, then adjustments previously made are restored on a prospective basis.



POLITICAL SUBDIVISION PARTICIPANTS



CITIES

Adams	Clarksville	Erwin	Jacksboro	Maryville	Oliver Springs	Spring Hill
Alamo	Cleveland	Estill Springs	Jackson	Mauzy City	Paris***	Springfield
Alcoa***	Clifton	Etowah	Jamestown	Maynardville	Parsons	Surgoinsville
Ashland City	Clinton	Fairview	Jasper	McEwen	Pegram	Sweetwater
Atoka	Collegedale	Fayetteville	Jefferson City	McKenzie	Pikeville	Tazewell
Atwood	Collierville**	Forest Hills**	Johnson City**	McMinnville	Pittman Center	Tellico Plains
Baileyston	Collinwood	Franklin	Jonesborough	Medina	Pleasant Hill	Townsend
Baxter	Cookeville***	Friendship	Kenton	Middleton	Pleasant View	Tracy City**
Belle Meade**	Coopertown***	Friendsville	Kimball	Milan	Portland	Trenton
Bells	Cornersville	Gainesboro	Kingsport**	Millersville	Puryear	Tullahoma
Benton	Covington	Gallatin	Kingston	Millington	Red Bank	Tusculum
Big Sandy	Cowan	Galloway	Kingston Springs	Monterey	Red Boiling Springs	Unicoi
Bluff City	Crossville**	Gatlinburg***	Lafayette	Morrison	Ripley	Union City
Bolivar	Cumberland	Gleason	Lafollette	Morristown	Rockwood	Vanleer
Bradford	Dandridge	Goodlettsville	Lakeland**	Moscow**	Rocky Top	Vonore
Brentwood***	Dayton	Gordonsville	Lakewood**	Mosheim	Rutherford	Watauga
Brighton	Decatur	Grand Junction	Lawrenceburg	Mountain City	Rutledge	Waverly
Bristol***	Decaturville	Greenbrier	Lebanon***	Mt. Carmel	Savannah**	Waynesboro
Brownsville	Decherd	Greeneville	Lenoir City*	Mt. Juliet	Selmer	Westmoreland***
Bruceton	Dickson	Greenfield***	Linden	Munford	Sevierville	White Bluff
Byrdstown	Dover	Halls	Livingston	New Johnsonville	Signal Mountain	White House
Camden	Ducktown	Harriman***	Lobelville	New Tazewell	Soddy Daisy	White Pine
Carthage	Dunlap	Harrogate	Lookout Mountain	Newport	Somerville	Whiteville
Caryville	Dyer	Henderson	Loretto	Nolensville	South Carthage	Whitwell
Celina	Eagleville	Hendersonville	Loudon	Norris***	South Fulton***	Woodbury
Centerville	East Ridge	Hohenwald	Luttrell	Oak Hill	South Pittsburg	
Charleston	Elizabethton	Humboldt	Madisonville	Oak Ridge	Sparta	
Charlotte	Elkton**	Huntington	Manchester	Oakland	Spencer	
Church Hill	Erin	Huntland	Martin	Obion	Spring City	

COUNTIES

Anderson	Coffee**	Hamilton***	Lawrence	Morgan	Stewart
Bedford	Crockett	Hardeman	Lewis	Obion	Sullivan
Benton	Cumberland	Hardin	Lincoln	Overton	Sumner
Bledsoe	Decatur	Hartsville/Trousdale	Loudon	Perry	Tipton
Blount	DeKalb	Hawkins	Macon	Pickett	Unicoi
Bradley***	Dickson	Haywood	Madison**	Polk	Union
Campbell	Fayette	Henderson	Marion	Putnam	Van Buren
Cannon	Fentress	Henry	Marshall	Rhea*	Warren
Carroll	Franklin	Hickman	Maury	Roane***	Washington
Carter	Gibson	Humphreys	McMinn	Robertson	Wayne
Cheatham	Giles	Jackson	McNairy	Rutherford	Weakley***
Chester	Grainger	Jefferson***	Meigs**	Scott	White
Claiborne	Greene	Johnson***	Monroe	Sequatchie	Williamson
Clay	Grundy	Lake	Montgomery***	Sevier	Wilson
Cocke	Hamblen	Lauderdale	Moore*	Smith	

*All departments not covered by TCRS.

**Plan closed to new hires.

***Employer has more than one plan design

(continued)



911 EMERGENCY COMMUNICATIONS DISTRICTS

Anderson Co.	Cleveland Bradley Co.	Hamblen Co.	Lawrence Co.	Overton Co.	Van Buren Co.
Bedford Co.	Cocke Co.	Hamilton Co.	Loudon Co.	Roane Co.	Warren Co.
Benton Co.	Crockett Co.	Hardeman Co.	Macon Co.	Robertson Co.	Washington Co.
Blount Co.	Cumberland Co.	Hardin Co.	Madison Co.	Rutherford Co.	Wayne Co.
Brentwood***	DeKalb Co.	Hawkins Co.	Marshall Co.	Scott Co.	Weakley Co.
Campbell Co.	Dickson Co.	Henderson Co.	Maury Co.	Sequatchie Co.	White Co.
Cannon Co.	Fayette Co.	Humphreys Co.	McMinn Co.	Sevier Co.	Wilson Co.
Carroll Co.	Fentress Co.	Jefferson Co.	McNairy Co.	Shelby Co.	
Carter Co.	Gibson Co.	Johnson Co.	Monroe Co.	Sullivan Co.	
Chester Co.	Grainger Co.	Knox Co.	Montgomery Co.	Tipton Co.	
Claiborne Co.	Greene Co.	Lauderdale Co.	Obion Co.	Union Co.	

HOUSING AUTHORITIES

Bristol	Hohenwald	Memphis	South Pittsburg
Clinton	Lawrenceburg	Morristown	Sweetwater
Cookeville	Lenoir City	Rockwood	
Hartsville	Maryville	Rogersville**	

JOINT VENTURES

Bi County Solid Waste Management	Fayetteville/Lincoln County Public Library	Tazewell - New Tazewell Fire Department
Bolivar-Hardeman County Library	Jackson/Madison County Library**	TriCities Airport Authority***
Brownsville-Haywood County Library	Maryville, Alcoa, Blount Co. Parks & Rec.	Washington County/Johnson City Animal Control Center
Clarksville/Montgomery County Public Library	Morristown/Hamblen County Landfill	Washington County/Johnson City EMS
Clarksville/Montgomery County Regional Planning	Shelbyville-Bedford County Library	Wilson County Emergency Management Agency
Fayetteville-Lincoln County Industrial Development Board	Smyrna/Rutherford County Airport Authority	

MISCELLANEOUS AGENCIES

Anderson County Economic Development Association	County Officials Association of TN	Hardin County General Hospital
Association of County Mayors	Davidson County Officials	Henderson County Judges Officials Executives
Blount County Fire Protection District	Delta Human Resource Agency	Humphreys County Nursing Home
Blount County Library	Douglas Cherokee Economic Authority	Joint Economic and Development Board of Wilson County
Bradley Cleveland Community Services Agency	Dyer County Judges Executives Officials	Kinser Park
Carroll County Commissioners	Edward Gauche Fisher Public Library	Knox County Executive and Officials
Carter County Tomorrow	First Tennessee Development District	Knoxville City Judges and Attorneys
Clarksville Memorial Hospital**	First Tennessee Human Resource Agency	Lawrence County Public Library
Cocke County Partnership, Inc.	Governors Books From Birth Foundation	Lewis County Highway Department
Community Health Agencies	Greater Nashville Regional Council	Lewis County Officials
Cookeville Regional Medical Center	Hancock County Officials	Loudon County Economic Development Agency

*All departments not covered by TCRS.

**Plan closed to new hires.

***Employer has more than one plan design

(continued)



MISCELLANEOUS AGENCIES (continued)

Table with 3 columns listing various agencies such as Marion County Library, Southeast Tennessee Human Resource Agency, and Tennessee Organization of School Superintendents**.

SPECIAL SCHOOL DISTRICTS/BOARDS OF EDUCATION

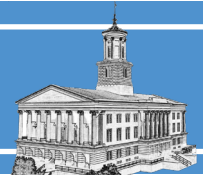
Table with 3 columns listing school districts like Arlington Community Schools***, Gibson County, and Murfreesboro.

UTILITY DISTRICTS

Table with 3 columns listing utility districts such as Alpha-Talbot, Cookeville Boat Dock Road, and First Tipton County.

*All departments not covered by TCRS.
**Plan closed to new hires.
***Employer has more than one plan design

(continued)



UTILITY DISTRICTS *(continued)*

Lincoln County Board of Public Utilities	Poplar Grove	Walden's Ridge
Loudon	Quebec-Walling	Watauga River Regional Water Authority
Madison Suburban	Reelfoot Lake Regional	Water Authority of Dickson County
Middle Tennessee	Riceville	Weakley County Municipal Electric***
New Market	River Road	Webb Creek
North Utility District of Decatur and Benton Counties	Roane Mountain	West Knox**
North West	Russellville Whitesburg	West Overton
Northeast Henry County	Savannah Valley	
Oak Ridge	Second South Cheatham	
O'Connor	Sevier County	
Old Gainesboro Road	Siam	
Old Hickory	Smith	
Old Knoxville Highway	Sneedville	
Paris-Henry	South Elizabethton	
Persia	South Giles	
Plateau	Sylvia-Tennessee City Pond Water	

*All departments not covered by TCRS.

**Plan closed to new hires

***Employer has more than one plan design