TEACHERS RETIREMENT ASSOCIATION

A Pension Trust Fund of the State of Minnesota

Rock Ridge High School, Virginia, MN
Photo by Dan Jandl

2024

ANNUAL COMPREHENSIVE FINANCIAL REPORT

FOR FISCAL YEAR ENDED JUNE 30, 2024

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ANNUAL COMPREHENSIVE FINANCIAL REPORT

FOR FISCAL YEAR ENDED JUNE 30, 2024

TRA | TEACHERS RETIREMENT ASSOCIATION

A Pension Trust Fund of the State of Minnesota

Teachers Retirement Association

60 Empire Drive

Suite 400

Saint Paul, MN

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www.MinnesotaTRA.org

Tim Maurer
Interim Executive Director

This report was prepared by TRA accounting and executive staff.

Cover: Rock Ridge High School, Virginia, Minnesota
Photo courtesy of Dan Jandl

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Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Minnesota Teachers Retirement Association

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

June 30, 2023

Christopher P. Morrill

Executive Director/CEO

Government Finance Officers Association

Award for Outstanding Achievement in Popular Annual Financial Reporting

Presented to

Minnesota Teachers Retirement Association

For its Annual Financial Report
For the Fiscal Year Ended

June 30, 2023

Christopher P. Morrill

Executive Director/CEO

PPCC

Public Pension Coordinating Council

Recognition Award for Administration
2024

Presented to

Minnesota Teachers Retirement Association

In recognition of meeting professional standards for
plan administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

Alan H. Winkle

Alan H. Winkle
Program Administrator

TEACHERS RETIREMENT ASSOCIATION
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info@MinnesotaTRA.org

Letter of Transmittal

December 19, 2024

Members and the Board of Trustees

Teachers Retirement Association
60 Empire Drive, Suite 400
Saint Paul, MN 55103-4000

Dear Members and Trustees:

We are pleased to present this Annual Comprehensive Financial Report (ACFR) of the Teachers Retirement Association (TRA) for the fiscal year ended June 30, 2024, our 93rd year of service.

The Office of the Legislative Auditor has issued an unmodified (clean) opinion on TRA's financial statements for the year ended June 30, 2024. The independent auditor's report is located at the front of the financial section of this report. Management believes that the accompanying statements, schedules, and tables are fairly presented. We are solely responsible for the content of the report, including its financial statements, which will help in understanding information about TRA and in comparing our operating results with those of other teacher retirement systems.

TRA management has implemented a system of internal controls to monitor and safeguard assets, ensure transactions are carried out in accordance with Minnesota statutes, and promote efficient operations. Internal controls are designed to provide reasonable, not absolute, assurance safeguarding TRA's assets against loss. The concept of reasonable assurance recognizes that a cost-benefit analysis requires estimates and judgments by management. All internal control evaluations occur within this framework.

Readers are encouraged to refer to the Management Discussion and Analysis on pages 19-24 for an overview of additions to and deductions from the TRA pension fund and additional financial reporting detail for the fiscal year.

TRA Profile

As of June 30, 2024, TRA had 595 reporting units, 85,962 active members and a total of 70,480 retirees, survivors, beneficiaries, and disabilitants who were receiving monthly benefits.

TRA is managed by a board of eight trustees who oversee the administration of the pension fund. The pension fund is also governed by federal laws and state statutes. For financial reporting purposes, TRA is considered a pension trust fund of the State of Minnesota, and TRA financial results are incorporated into the ACFR of the State of Minnesota.

TRA follows the provisions of statements promulgated by the Government Accounting Standards Board (GASB).

TRA's ACFR also complies with Minnesota Statutes, Section 356.20. Transactions are reported on the accrual basis of accounting. Contributions from employers and members are recognized as revenue when earned. Expenses are recorded when corresponding liabilities are incurred, regardless of when payment is made.

TRA contracts actuarial services from CavMac Actuarial Consulting Services (CavMac) of Bellevue, Nebraska, to prepare two annual actuarial valuation reports. One report is performed in accordance with the accounting and financial reporting requirements of GASB Statement 67. The second report is performed using the actuarial assumptions and methods contained in Minnesota Statutes Section 356.215; it provides results that assist board members and state policymakers with funding determinations. These statutes specify key funding policy elements including amortization period, actuarial cost method, asset smoothing method and investment earnings assumption. The Minnesota Office of the Attorney General provides legal counsel to the Board of Trustees. Most financial transactions, including disbursements from the pension fund, are processed through the centralized controls of the Statewide Integrated Financial Tools (SWIFT) system, under the statutory authority of Minnesota Management and Budget (MMB) and the Department of Administration.

All TRA assets are invested by the State Board of Investment (SBI). A listing of the pooled investments in the TRA fund can be found on page 67. SBI has developed strategic asset allocation and other investment policies based on the long-term investment horizon profile of our members and benefit recipients. SBI, with advice from its Investment Advisory Council (IAC), continually reviews policies and asset allocation to ensure sufficient assets are available to finance benefits determined under statute. TRA's Executive Director represents TRA on the 17 member IAC.

Economic Conditions and Outlook (from Minnesota Management and Budget)

The near-term economic outlook for Minnesota has moderated since MMB’s Budget and Economic Forecast was prepared in February 2024. In the November 2024 Budget and Economic Forecast, slower employment and wage growth in Minnesota during 2024 lowers expectations compared to the February forecast. Beyond 2024, the forecasts for growth in Minnesota’s wages and employment are expected to grow at a modest rate through 2029, reflecting indications of a cooling labor market. Since April, the Minnesota unemployment rate has increased by 0.7 percentage points, and employment growth has underperformed earlier projections. While the state’s employers added an average of 6,000 jobs from January through April, they added an average of just 1,200 jobs per month from May through October. Data from the Quarter Census of Employment and Wages (QCEW) suggest that these numbers may be revised downward when the annual benchmark becomes available in January.

Looking ahead, Minnesota’s aging population will continue to constrain employment growth. As a result, average wage growth—growth in wage and salary income per worker—is expected to be the primary driver of increases in total nominal wage income through the forecast horizon.

Minnesota’s economic outlook is informed by the Standard & Poor's Global Market Intelligence (SPGMI) forecasts for both the U.S. and Minnesota, data from the Minnesota Department of Economic and Employment Development (DEED), the Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW), Minnesota tax revenues, and additional data from the BLS and the Bureau of Economic Analysis (BEA).

In October, Minnesota’s unemployment rate was 3.4%, the 21st highest among U.S. states and 0.7 percentage points below the U.S. rate of 4.1%. The national unemployment rate has been trending upward this year, rising from 3.7% in January to a high of 4.3% in July. Subsequently, it has decreased to 4.1% in September and October. Since reaching 2.7% in April 2024, Minnesota’s unemployment rate has increased proportionately more than the national rate, rising steadily to October’s rate of 3.4%.

Minnesota's employment growth is expected to continue to slow. Payroll employment in Minnesota grew 1.8% in 2023 but is projected to expand by 0.8% in 2024. Payroll employment growth is expected to slow further to an average of 0.3% annually from 2025 to 2029, or approximately 10,200 jobs annually. This subdued trajectory for Minnesota’s employment growth can largely be attributed to an aging workforce and lower birth rates.

With only moderate growth in Minnesota employment in the November 2024 Budget and Economic Forecast, average wage growth (growth in wage and salary income per worker) is expected to be the primary driver of growth in total nominal wage income through our forecast horizon. From 2010-2019 average wage income per worker increased 2.8% per year on average. Growth in average wage income per worker is expected to rise 3.6% per year in years 2024-2029. This exceeds forecasted average rates of inflation by 2.2% over the same period, implying improvements in real wages on average.

With high borrowing costs due to tight monetary policy, coupled with increasing inventory, price increases in Minnesota’s housing market are slowing. Although home prices continue to increase, buyer activity has slowed, and an increase in available inventory gives purchasers more flexibility. Because of loosening monetary conditions, SPGMI projects that the 30-year fixed-rate mortgage (FRM) rate, the most popular home loan in the U.S., will drop below 6.0% by the middle of 2025, the first time it will have been below 6% since September 2022. SPGMI expects the rate to reach 5.0% by the end of 2027 and remain at that level through the end of 2028.

Even with high mortgage rates and a decline in pending and closed sales, home prices in Minnesota remain at record highs. In October 2024, the median sales price statewide reached $347,500, a 5.3% increase compared to the previous year. According to the Federal Housing Finance Agency (FHFA), Minnesota home prices were 2.9% higher in the second quarter of 2024 compared to the year prior. In the Twin Cities Metropolitan Area, the median price rose to $382,000, 4.1% higher than a year earlier. On average, metro-area sellers received 97.8% of the original list price at closing, demonstrating the market’s resilience despite shifting conditions.

Legislation

The landmark pension reform bill that was passed in 2018 continues to have a lasting impact on our operations. The changes help put TRA's pension fund on a sustainable path towards 100% funded status. Several of the provisions had delayed and phased effective dates, so TRA will continue implementing some provisions of the 2018 legislation over the next several years. These include:

- cost of living adjustment (COLA) on 1/1/2023 was 1% . COLA will increase by 0.1% per year for five years until it reaches 1.5% on January 1, 2028 where it will remain thereafter
- eligibility for first COLA changes to normal retirement age beginning July 1, 2024, unless retiring under rule of 90 or using the age 62 with 30 years of service provision
- augmentation in early retirement benefits was phased out over five years beginning July 1, 2019, unless retiring under rule of 90 or using the age 62 with 30 years of service provision.

The 2024 Omnibus Pensions and Retirement Bill (HF5040/SF4643) lowered the normal retirement age for Tier II members from 66 to 65 effective July 1, 2024 (previously July 1, 2025) and provided for a one-time State appropriation of $28.46 million to cover the cost.

Pension Omnibus Budget Bill (HF3100/SF3162), passed in the 2023 Legislative session, appropriated $176,166,838 to TRA, payable on October 1, 2023, to provide for the one-time lump-sum COLA for retired members as well as pay down the unfunded actuarial accrued liability.

- $28,735,816 for the difference between statutory 1.1% compounded COLA payable on January 1, 2024 and a one-time 2.5% lump-sum COLA for coordinated plan members;

- $2,384,222 for the difference between the statutory 1.1% compounded COLA payable on January 1, 2024 and a one-time 4% lump-sum COLA for basic plan members; and
- $145,046,800 to pay down the unfunded actuarial accrued liability.
- The provision in Tax Finance & Policy bill (HF1938/SF1811), to extend the amortization period from 2048 to 2053 effective July 1, 2025 was rescinded.
- The quadrennial experience study was completed. The demographic assumption changes are first reflected in the current valuation after being approved by the LCPR.

Under the Tax Finance and Policy Bill (HF1938/SF1811) also passed in 2023 Legislation, effective July 1, 2025:

- The employer contribution rate will increase by 0.75% for a total rate of 9.5%.
- The employee contribution rate will increase by 0.25% for a total rate of 8.0%.
- The pension adjustment rate for school districts and the base budgets for Minnesota State, Perpich Center for Arts Education, and Minnesota Academies will increase to reflect the 0.75% employer contribution rate increase.

Investment Results

The State Board of Investment (SBI) invests the assets of the TRA funds. SBI is governed by the prudent person rule and other standards set forth in Minnesota Statues, Chapters 11A and 356A. TRA participates in a Combined Funds model. The Combined Funds represent the assets for both the active and retired public employees in the statewide retirement systems, the biggest of which are the PERA, TRA, and MSRS. SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies.

Since the benefit obligations are not all immediately payable, SBI can maintain a long-term strategy. This approach, along with a well-diversified investment portfolio, helps weather periods of short-term volatility in the investment markets.

Within this investment environment TRA retirement assets under SBI investment management (see page 66) produced an investment return of 12.3% for the fiscal year ended June 30, 2024, net of investment management fees and any profit sharing agreements. The 12.3% return over performed the composite benchmark by 0.5% for the fiscal year. Over the latest 5, 10, 20, and 30-year periods, the TRA investment portfolio has experienced an annualized investment return of 9.2%, 8.3%, 8.3% and 8.8% respectively. For time periods referenced, the performance of the portfolio exceeded the performance of the composite benchmark and exceeded the assumed rate of return.

The public equity category returned 19.8% for the fiscal year ended June 30, 2024. The domestic portion of public equity returned 23.5% and the international portion returned 12.8%. The private markets produced a return of 7.7% for fiscal year 2024. The fixed income portion of the combined funds produced a return of 2.7% for the fiscal year.

Statutory Funding Status

The actuarial value of TRA assets increased $1.4 billion for a total of $28.3 billion as of June 30, 2024 as compared to $26.9 billion on June 30, 2023. For actuarial purposes, investment gains and losses over or under the assumed return are recognized over a five-year period. The rate of return was higher than the assumed rate of return, resulting in an actuarial gain of $409 million. The five-year smoothing of investment gains and losses produced a deferred investment gain of $769.7 million as of June 30, 2024. This deferred gain will be recognized over the next four fiscal years.

Another key measure to assess TRA funding health is the adequacy of employee and employer contributions including direct aid. The 2023 legislature passed a bill lowering the investment return assumption and the normal retirement age for Tier II members. Taking that into consideration, the current valuation results show a contribution deficiency of 1.25% of pay.This deficiency means that, if all current assumptions are exactly met in the future, the Unfunded Actuarial Accrued Liability (UAAL) will not be fully amortized at the scheduled date of June 30, 2048. TRA's UAAL – the difference between the Actuarial Accrued Liability (AAL) and the Actuarial Value of Assets (AVA) decreased from $8.1 billion on June 30, 2023, to $7.1 billion on June 30, 2024. Included in the 2023 bill, is an increase in contribution rates effective July 1, 2025. Employee contribution rates will be 8.00% and employer rates will be 9.50%. Once future contribution rates increase, the contribution rate deficiency is expected to be .25% of covered member payroll.

TRA's funding ratio improved through the changes that occurred as referenced above in the Legislative section on page 6. At June 30, 2024, the funding ratio stood at 79.9%, an increase from 76.9% on June 30, 2023. However, as mentioned earlier, the additional improvements scheduled or expected in the future will affect the System's funding outlook.

In 2023, TRA's actuarial consultant, CavMac completed a regularly scheduled four-year experience study for the period of July 1, 2018 through June 30, 2022. An experience study determines whether the actuarial assumptions currently in use have adequately projected the actual emerging experience of the TRA plan. The following are the recommendation results of the experience study.

- Economic assumptions:
    - The investment return assumption be reduced from 7.50% to 7.00% (rate currently set in statute).
- Demographic assumptions:
    - Mortality - Update the mortality tables for active employees, retirees, disabled retirees, and contingent beneficiaries to the Pub2010 family of tables.
    - Retirement - Increase some of the Tier II early retirement rates and changed some of the unreduced retirement rates for both tiers to better align with actual experience.
    - Optional form election - Changes to the probability that new female retirees elect either the Straight Life Annuity or 100% Joint & Survivor Annuity to reflect actual experience.
    - Termination of employment - Reductions in the rates of termination of employment in the first 10 years of employment and very slight increases for years 16 to 25 to better match the observed experience.
    - Disability - Decreased disability rates over age 45 by 15% to reflect the continued lower than expected observations.

Major Initiatives

TRA's Board approved a strategic plan developed with input from TRA stakeholder groups comprised of TRA staff and TRA Board members. There are four goals outlined in the plan:

- Engagement and education: TRA will provide information to empower members, employers, legislators and taxpayers to be aware and engaged about TRA's governance structure as well as the value of a defined-benefit plan. Member educational materials should be clear, accurate, accessible and presented in innovative ways for all life stages.
- Fund integrity balanced with equity in plan provisions: TRA will abide by their fiduciary duty to ensure the financial stability of the plan while working toward fairness in benefit structure and contribution rates. TRA will continually monitor the plan's financial health. When needed, TRA will recommend adjustments to stabilize the fund while upholding the board's guiding principles of shared commitment, intergenerational equity, long-term financial sustainability and maintaining the recruitment/retention value of a TRA pension.
- Engaged, empowered, high performing workforce: TRA will demonstrate dedication, stability and inclusivity. Leadership and staff will respect all perspectives and experiences. Succession planning and operational workforce planning will support the transfer of knowledge from outgoing employees and the recruitment and retention of new and existing employees.
- Risk-intelligent organization: TRA will be a risk-intelligent organization with a robust, proactive and comprehensive risk-management program. TRA will continue to monitor and respond to known and emerging risks.

Strategies and action plans have been outlined to accomplish each of the four goals. Executive management continues to apprise the TRA Board of Trustees about progress made towards achieving the various goals. The strategic plan will continue to guide our planning efforts as we enter 2025.

Awards and Recognition

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Teachers Retirement Association for its Annual Comprehensive Financial Report for the fiscal year ended June 30, 2023. This was the 26th consecutive year that the Association has achieved this prestigious award. To be awarded a Certificate of Achievement, a governmental unit must publish an easily readable and efficiently organized Annual Comprehensive Financial Report. This report must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for a period of only one year. We believe that our current Annual Comprehensive Financial Report continues to meet the Certificate of Achievement Program requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

In addition, GFOA awarded TRA with the Award for Outstanding Achievement in the Popular Annual Financial Reporting (PAFR) for the fiscal year ended June 30, 2023. The PAFR Award is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government popular reports. In order to receive this award, a government unit must publish a Popular Annual Financial Report, whose contents conform to program standards of creativity, presentation, understandability, and reader appeal. This was the second year we produced and published a PAFR and are pleased to have received this award again.

TRA was also awarded the Public Pension Coordinating Council's Recognition Award for Administration in 2024. This award recognizes TRA's meeting of professional standards in plan administration in categories such as benefits, actuarial valuations, audit, investments, and communications to members.

The preparation of this report is possible only through the combined efforts of our employees, employer units, and professional consultants. It is intended to provide a complete and reliable portrayal of the financial status of the pension fund as a basis for making management decisions and determining responsible stewardship over the assets held in trust for the members of the Association. We have notified members, employer unit officials, and other interested persons about the availability of the report on the TRA website. A summary that highlights key aspects of the report will be provided to all members in the TRIB, TRA's periodic newsletter.

Lastly, our sincere appreciation is extended to all who assisted in and contributed toward the completion of this publication.

Respectfully submitted,

Tim Maurer
Interim Executive Director

Maria Steele
Chief Financial Officer

TRA Board of Trustees and Executive Leadership

As of December 9, 2024

Executive Leadership

Tim Maurer	Interim Executive Director
Maria Steele	Chief Financial Officer
Rachael Barth	Chief Operating Officer

Consulting Services

As of June 30, 2024

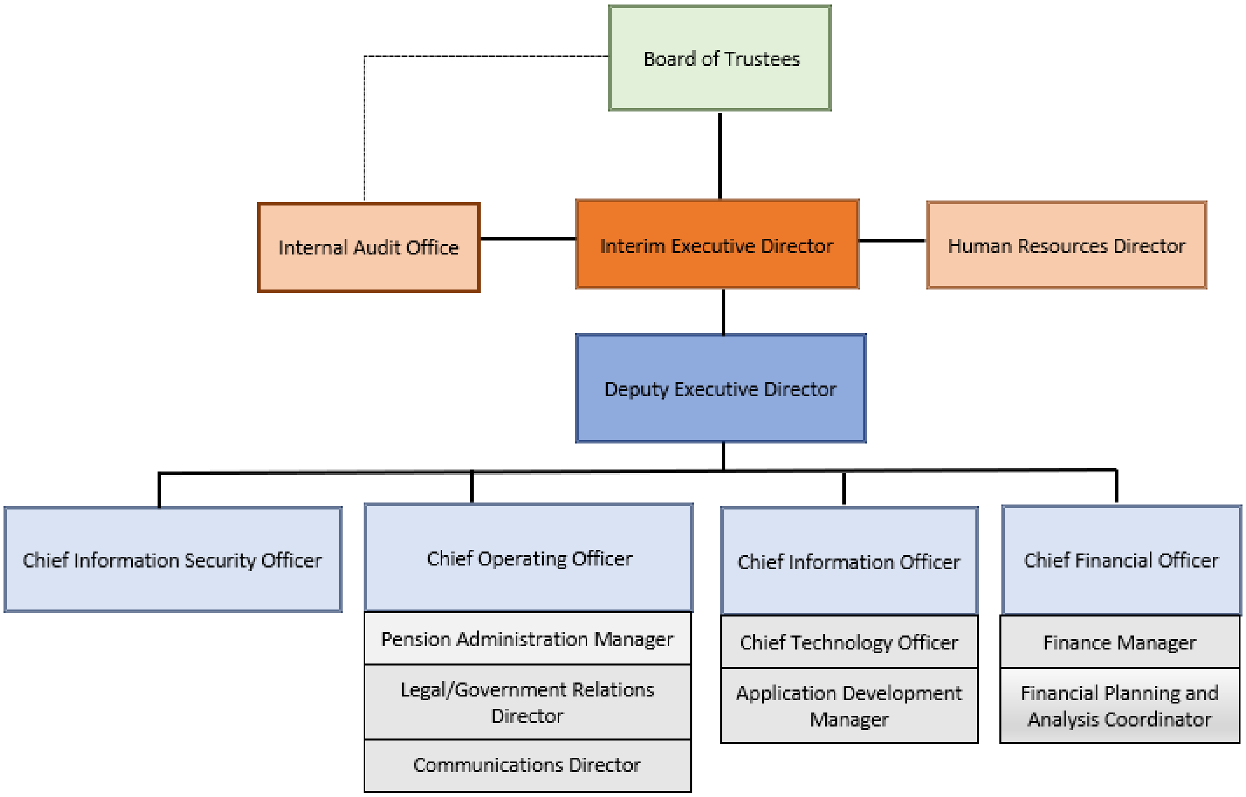
Actuary	CavMac Actuarial Consulting Services	Bellevue, Nebraska
Auditors	Office of the Legislative Auditor CliftonLarsonAllen LLP	Saint Paul, Minnesota Chicago, Illinois
Investments	Minnesota State Board of Investment	Saint Paul, Minnesota

(The Schedule of Investment Managers and Fees is found on pages 70-72)

Legal Counsel	Office of the Attorney General Ice Miller	Saint Paul, Minnesota Indianapolis, Indiana

Administrative Organization

As of December 9, 2024



Our Mission Statement

TRA provides retirement, disability and survivor benefits to Minnesota's public educators assisting them in achieving future income security.

TRA strives to provide benefits that attract and retain competent teachers who serve communities throughout the state, building a stronger education system.

TRA is committed to safeguarding the financial integrity of the fund and takes pride in providing exceptional, innovative services.

Vision

To be an outstanding retirement system pursuing benefits and services that exceed members' expectations.

Goals

Engagement and Education

TRA will provide information to empower members, employers, legislators and taxpayers to be aware and engaged about TRA's governance structure as well as the value of defined-benefit plan. Member educational materials should be clear, accurate, accessible and presented in innovative ways for all life stages.

Fund Integrity Balanced with Equity in Plan Provisions

TRA will abide by its fiduciary duty to ensure the financial stability of the plan while working toward fairness in benefit structure and contribution rates. TRA will continually monitor the plan's financial health. When needed, TRA will recommend adjustments to stabilize the fund while upholding the Board's guiding principles of shared commitment, intergenerational equity, long-term financial sustainability and maintaining the recruitment/retention value of a TRA pension.

Engaged, Empowered, High-Performing Workforce

TRA will demonstrate dedication, stability and inclusivity. Leadership and staff will respect all perspectives and experiences. Succession planning and operational workforce planning will support the transfer of knowledge from outgoing employees and the recruitment and retention of new and existing employees.

Risk-Intelligent Organization

TRA will be a risk-intelligent organization with a robust, proactive and comprehensive risk-management program. TRA will continue to monitor and respond to known and emerging risks.

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FINANCIAL

OLA | OFFICE OF THE LEGISLATIVE AUDITOR

Judy Randall, Legislative Auditor
State of Minnesota

Independent Auditor's Report

Members of the Board of Directors
Teachers Retirement Association of Minnesota

Tim Maurer, Interim Executive Director
Teachers Retirement Association of Minnesota

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the Teachers Retirement Association of Minnesota (TRA), which included the Statement of Fiduciary Net Position as of June 30, 2024, the related Statement of Changes in Fiduciary Net Position, and Notes to the Financial Statements, as listed in the Financial Section of the Table of Contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Teachers Retirement Association of Minnesota as of June 30, 2024, and the changes in financial position for the fiscal year then ended in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

Responsibilities of Management for the Financial Statements

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

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

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E-mail: legislative.auditor@state.mn.us • Website: www.auditor.leg.state.mn.us • Minnesota Relay: 1-800-627-3529 or 711

Auditor's Responsibilities for the Audit of the Financial Statements

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

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

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

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

Required Supplementary Information

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

Supplementary Information

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

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the Introductory, Investment, Actuarial, and Statistical Sections, as listed in the Table of Contents, but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance thereon.

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

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we will issue a report on our consideration of the TRA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is to describe the scope and results of our testing of internal control over financial reporting and compliance and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in assessing the results of our audit.

Lori Leysen, CPA
Deputy Legislative Auditor

Jordan Bjonfald, CPA
Audit Director

December 19, 2024
Saint Paul, Minnesota

Management Discussion and Analysis

June 30, 2024

This discussion and analysis of the Teachers Retirement Association (TRA) of Minnesota provides an overview of TRA's financial activities for the fiscal year ended June 30, 2024. We encourage you to review the information presented here in conjunction with the transmittal letter beginning on page 4 and the additional information presented in the financial statements and required supplementary information.

Financial Highlights

Financial highlights of fiscal year 2024 include:

- The Net Position Restricted for Pension Benefits increased in value by $2.3 billion during fiscal year 2024. Plan contributions and investments produced a net gain of $4.4 billion during the fiscal year, while plan benefits and other expenses totaled $2.1 billion.
- Investment returns for the 2024 fiscal year were 12.3% using the time-weighted value method, net of investment management fees and the effect of any profit-sharing arrangements, resulting in a net investment gain of $3.2 billion.
- Contributions paid by employees, employers, and non-employers totaling $1.2 billion, is an increase of $249.8 million from the fiscal year 2023.
- Pension benefits paid to retirees and beneficiaries was $2.1 billion, an increase of $49 million from fiscal year 2023.
- Refunds of member contributions plus interest were $21.5 million, an increase of $4 million from the fiscal year 2023 .
- Administrative expenses of the fund were $17.5 million. The fiscal year 2023 total was $16.5 million, representing an increase of $1 million for the fiscal year.

Actuarial Highlights

The Association's funding objective is to meet long-term benefit obligations through the accumulation of contributions and investment income. This funding is structured so that the burden of paying retirement costs is shared equitably by present and future generations of members and taxpayers.

By state law, TRA and its actuarial consultant are required to prepare an actuarial funding valuation to assist decision-makers in assessing the funding strength and position of the TRA fund. The results of this actuarial valuation report will be used to describe key funding measures such as the funding ratio, the Unfunded Actuarial Accrued Liability (UAAL) and the adequacy of contribution rates.

As of June 30, 2024, the accrued liability funding ratio for TRA, using actuarial value of assets, was 79.9%, an increase from the funding ratio of 76.9% as of June 30, 2023. TRA's UAAL on June 30, 2023, was $8.1 billion. The June 30, 2024, UAAL was $7.1 billion, a decrease of $1 billion from the previous year. Key actuarial funding measures are presented on page 85.

TRA's actuary has also prepared a separate actuarial valuation report under the requirements of GASB Statement 67 (GASB 67) for presentations and disclosures within the financial section of this report. The GASB 67 valuation is the foundation of a report TRA will issue in early 2025 to assist employer units in their GASB Statement 68 (GASB 68) financial reporting presentations and disclosures in 2025. The fiscal year 2024 results indicate a Net Pension Liability of $6.4 billion, a decrease of $1.9 billion from the $8.3 billion on July 1, 2023.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the financial reports of TRA. The financial reports consists of:

- the basic financial statements, comprised of the *Statement of Fiduciary Net Position* and the *Statement of Changes in Fiduciary Net Position*;
- the notes to the basic financial statements;
- required supplementary information; and
- other supplementary information.

The *Statement of Fiduciary Net Position* (page 25) presents information on the assets and liabilities of TRA, with the difference between the two reported as net position. The net position of the Association reflects the resources available to pay benefits to members when due. Over time, increases and decreases in net position measure whether the Association's financial position is improving or deteriorating. It can be thought of as a snapshot of the financial position of TRA at that specific point in time.

The *Statement of Changes in Fiduciary Net Position* presents information detailing the changes in net position that occurred during the current fiscal year. All changes in net position are reported on an accrual basis. This means that the revenue or expense is recognized as soon as the underlying event giving rise to the change occurs, regardless of when the actual cash is received or paid. Thus, revenues and expenses are reported in this statement for some items that will not result in cash flows until future fiscal periods.

The notes to the financial statements (pages 27-47) provide additional information that is essential for a full understanding of the data provided in the financial statements.

The report also contains required supplementary information in addition to the basic financial statements. The required supplementary information (pages 48-50) will form a ten-year historical trend. The *Schedule of Changes in the Employers' Net Pension Liability* includes a reconciliation of the fiscal year 2024 net pension liability for GASB 67 reporting purposes.

The *Schedule of Employer and Non-Employer Contributions* presents information about the annual actuarially required contributions and contributions actually received in relation to this requirement, covered payroll, and contributions as a percentage of covered payroll.

The *Schedule of Investment Returns* (page 50), using the money-weighted method, is presented and will form a ten-year historical trend.

Three other supporting schedules are also presented:

- The *Schedule of Administrative Expenses* (page 58) presents the overall cost of administering the Association.
- The *Schedule of Professional Consultant Fees* (page 59) provides a breakdown of other consulting fees.
- The *Schedule of Investment Expenses* (page 60) provides further details about investment expenses.

Financial Analysis of the TRA Fund

Plan Assets

Total plan assets of the TRA fund as of June 30, 2024, were $30.4 billion and were mostly comprised of cash, investments, and contributions. Total plan assets increased $2.2 billion from the June 30, 2023 total of $28.2 billion. The primary reason for the increase was the investment appreciation in fair value of TRA assets by the end of fiscal year 2024.

Plan Liabilities

Total liabilities as of June 30, 2024, were $1.3 billion, a decrease of $121 million from the June 30, 2023 liability. The primary reason for the decrease in value of liabilities was the securities lending program and long-term bonds payable for the building co-owned by TRA. The final bond payment for the building will be made by June 2025.

Net Position

Association assets exceeded liabilities on June 30, 2024, by $29.1 billion. The amount has increased from the June 30, 2023 amount of $26.8 billion by $2.3 billion. TRA relies heavily on investment earnings to help pay benefits and expenses over the long term since annual employee and employer contributions are less than one-half of the amount needed to fund cash outflows.

As a result, the fair value of assets of the TRA Fund will generally decline during periods of weak investment performance, but rise during periods of strong performance.

Revenues — Additions to Fiduciary Net Position

Total additions to the TRA Fund during fiscal year 2024 were $4.4 billion, an increase of $1.2 billion from $3.2 billion in fiscal year 2023. The increase is due to strong investment earnings in fiscal year 2024 compared to the prior fiscal year and additional direct aid received.

Total employee and employer contributions, and direct aid for fiscal year 2024 increased $249.8 million from the previous fiscal year for a combined fiscal year total of $1.2 billion. The increase is attributable to the contribution of $176.1 million as part of the Pension Omnibus Budget Bill direct aid received. Additional reasons for the increase is due to the higher covered salaries earned by active members for fiscal year 2024 and an increase to the employer contribution rate on July 1, 2023. Contributions during fiscal year 2024 are prescribed in Minnesota Statute 354.42 at 7.75% employee and 8.75% employer for Coordinated Plan members of TRA.

A net investment gain of $3.2 billion was recorded for fiscal year 2024. This amount increased by $985.2 million from the net investment gain of $2.2 billion in fiscal year 2023.

Fiduciary Net Position

For the Fiscal Years Ended June 30, 2024 and June 30, 2023

(Dollars in Thousands)

Assets	2024	2023	Change
Cash and Investments	$ 30,331,001	$ 28,113,968	$ 2,217,033
Receivables	30,644	28,353	2,291
Capital Assets	7,079	9,382	(2,303)
Total Assets	**$ 30,368,724**	**$ 28,151,703**	**$ 2,217,021**
Liabilities			
Current Liabilities	$ 1,275,251	$ 1,395,831	$ (120,580)
Long Term Liabilities	994	1,369	(375)
Total Liabilities	**$ 1,276,245**	**$ 1,397,200**	**$ (120,955)**
Fiduciary Net Position	**$ 29,092,479**	**$ 26,754,503**	**$ 2,337,976**

Changes in Fiduciary Net Position

For the Fiscal Years Ended June 30, 2024 and June 30, 2023

(Dollars in Thousands)

Additions	2024	2023	Change
Employee Contributions	$ 480,136	$ 442,448	$ 37,688
Employer Contributions	756,421	544,351	212,070
Net Investment Gain(Loss)	3,199,055	2,213,897	985,158
Other	803	1,966	(1,163)
Total Additions	**$ 4,436,415**	**$ 3,202,662**	**$ 1,233,753**
Deductions			
Monthly Benefits	$ 2,059,436	$ 2,010,438	$ 48,998
Refunds of Contributions	21,501	17,531	3,970
Administrative Expenses	17,502	16,534	968
Total Deductions	**$ 2,098,439**	**$ 2,044,503**	**$ 53,936**
Change in Fiduciary Net Position	**$ 2,337,976**	**$ 1,158,159**	**$ 1,179,817**
Ending Net Position	**$ 29,092,479**	**$ 26,754,503**	**$ 2,337,976**

Expenses — Deductions from Fiduciary Net Position

The primary expenses of TRA include the payment of pension benefits to members and beneficiaries, refunds of contributions to former members, and the cost of administering the Fund. Total benefits paid in fiscal year 2024 were $2.1 billion. Retirement benefit expenses increased by $49 million. Of the total increase, $31.1 million was paid to eligible members as one-time lump sum COLA payout. The remainder of the increase in expense due to an increase in the number of recipients and a 1.1% increase for eligible recipients on January 1, 2024.

Member refunds increased from $17.5 million to $21.5 million for fiscal year 2024. Administrative expenses increased by $1 million during the fiscal year to 17.5 million. Overall, fund deductions increased $53.9 million for fiscal year 2024.

Actuarial Funding Valuations Highlights

The financial health of a public pension plan is not exclusively assessed by analyzing the basic financial statements. To assist funding analysis, TRA's actuary prepared an actuarial valuation in accordance with Minnesota Statute, Section 356.215. These financial statements should also be reviewed in conjunction with the Actuarial section of this ACFR.

Actuarial Assets

The actuarial value of assets increased from $26.9 billion on June 30, 2023 to $28.3 billion as of June 30, 2024. The actuarial value of assets smooths investment gains and losses over a five-year period to minimize the volatility associated with any one year. On a market value basis, TRA assets were $29.1 billion on June 30, 2024. As a result, the net deferred investment gain of $769.7 million (actuarial value of assets minus the market value) is an improvement from the $151.8 million loss in last year's valuation. Absent a favorable investment experience, the deferred asset losses continue to flow through the smoothing method over the next four years, lowering the funded ratio and increasing the Required Contribution Rate.

Actuarial Liabilities

TRA's Actuarial Accrued Liability on June 30, 2024, increased to $35.4 billion from the June 30, 2023, amount of $35 billion, an increase of 1.3%. A complete reconciliation can be seen on pages 95-96.

TRA's Unfunded Actuarial Accrued Liability (UAAL) decreased from $8.1 billion on June 30, 2023 to $7.1 billion on June 30, 2024. This represents a decrease of $1 billion. By statute, the unfunded liability must be fully amortized by June 30, 2048.

TRA's funding objective is to meet long-term benefit obligations through the accumulation of contributions and investment income. As of June 30, 2024, the Actuarial Accrued Liability funding ratio for TRA was 79.9%, an improvement from the comparable funding ratio of 76.9% as of June 30, 2023.

Contributions

TRA's statutory contribution rate of 17.21% of member covered payroll is currently lower than the required contribution rate calculated by TRA's actuarial consultant. The required contribution rate to fund normal pension costs, amortizing the UAAL, plus TRA administrative costs was calculated as 18.46%. The resulting contribution deficiency is 1.25% of covered payroll, or call, about ($81.4) million projected in fiscal year 2025.

During the 2024 legislative session, the Minnesota Legislation passed the 2024 Pensions and Retirement Bill.

- Change the effective date of the retirement age for Tier II members from 66 to 65 from July 1, 2025 to be effective July 1, 2024.
- Eligible Minnesota State employees with Individual Retirement Account Plans (IRAP) may elect to participate in a TRA plan instead effective January 1, 2025.

Remaining from the 2023 legislative session are increases to employee and employer contribution rates effective July 1, 2025.

- The employer rate will increase .75% from 8.75% to 9.5%.
- The employee rate will increase.25% from 7.75% to 8%.

GASB Statements 67-68 actuarial valuation results

The TRA Board of Trustees authorized a separate actuarial valuation report designed to comply with the provisions of GASB 67. The *Required Supplementary Information*, beginning on page 48, details the results of this valuation report. The focus of this valuation is primarily for financial statement presentations rather than funding analysis. Under the set of assumptions used in this valuation, TRA had a net pension liability of $6.4 billion on June 30, 2024 and a contribution excess of $31.6 million for fiscal year 2024. The GASB 67 investment return for fiscal year 2024, using the money-weighted method, was 12.3%, net of investment management fees and the effect of any profit-sharing arrangements.

The Net Pension Liability of $6.4 billion on June 30, 2024 is a decrease of 23% from the $8.3 billion calculated at June 30, 2023. The decrease (improvement) is primarily attributable to investment performance that was significantly higher than the actuarial target of 7%.

Under GASB 67 parameters, the actuary must calculate the date on which June 30, 2024 assets would be depleted, absent future cash flows and asset accumulations that would occur related to future members of TRA. The actuary has determined that using the GASB 67 methodology in fiscal year 2024, TRA assets are not expected to be depleted in the future.

TRA will allocate the results of the GASB 67 accounting valuation to each employer unit. We plan to provide employer units with this information in the calendar year 2025 to facilitate their compliance with the financial reporting requirements of GASB 68 for their fiscal year 2025 financial reporting cycle.

The complete GASB 67 accounting valuation report is available at:

https://minnesotatra.org/financial/annual-reports/

Summary

Due to the long-term nature of defined benefit plans, one must review the financial performance of TRA over a period of years and not at any one point in time. The funding ratio of the TRA fund increased from 76.9% to 79.9% for fiscal year 2024. However, the 2023 legislature passed a package that includes changes to the actuarial assumption, benefit provisions, and contribution rates as well as additional State appropriations payable in fiscal year 2024. Appropriated State funds received in 2024 in the amount of $145 million was designated to pay down the UAAL. As a result of the 2023 Omnibus Pension Bill, contribution rates will increase for both employers and employees on July 1, 2025 and the normal retirement age for Tier II members will be reduced from 66 to 65 effective July 1, 2024. TRA's amortization date change was rescinded and will remain June 30, 2048.

The long-term financial health of TRA, like all retirement funds, is heavily dependent on two key items: (1) future investment returns and (2) contributions. A contribution deficiency of 1.25% of member payroll exists based on the assumptions used for the 2024 valuation.Effective July 1, 2025, the employer contribution rate will increase by .75% and the employee contribution rate will increase by .25%, resulting in an ultimate contribution deficiency of .25%.

The contribution deficiency means that, if all assumptions are exactly met in the future, the UAAL will not be fully amortized before June 30, 2048, the statutory deadline. However, any change to actuarial assumptions and actual experience in the future will affect the full funding date.

TRA's Executive Management Team will continually study actuarial reports and funding projections to closely monitor the adequacy of contributions. The team will seek Board and legislative action to remedy any long-term structural deficiencies.

Teachers Retirement Fund
Statement of Fiduciary Net Position
June 30, 2024

(Dollars in Thousands)

Assets	
Cash and Short-Term Investments	
Cash	$ 14,948
Building Account Cash	603
Short-Term Investments	553,150
Total Cash and Short-Term Investments	**$ 568,701**
Accounts Receivable	**$ 30,644**
Investments (at Fair Value)	
Treasuries Pool	$ 2,739,569
Bond Pool	1,641,096
Alternative Investments Pool	7,058,107
U.S. Stock Index Pool	7,563,717
U.S. Stock Actively Managed Pool	2,163,762
Broad International Stock Pool	4,586,363
Global Equity	328,307
Return Seeking Fixed Income	1,415,218
Short Duration Laddered Bonds	1,021,792
Total Investments	**$28,517,931**
Securities Lending Collateral	**$ 1,244,369**
Building	
Land	$ 171
Building & Equipment Net of Depreciation	4,378
Total Building	**$ 4,549**
Capital Assets Net of Depreciation	**$ 2,530**
Total Assets	**$30,368,724**
Liabilities	
Current	
Accounts Payable	$ 30,405
Accrued Compensated Absences	107
Accrued Expenses - Building	10
Bonds Payable	360
Bond Interest Payable	—
Securities Lending Collateral	1,244,369
Total Current Liabilities	**$ 1,275,251**
Long Term	
Accrued Compensated Absences	$ 986
Bonds Payable	8
Total Long Term Liabilities	**$ 994**
Total Liabilities	**$ 1,276,245**
Net Position Restricted For Pensions	**$29,092,479**

The accompanying notes are an integral part of this statement.

Teachers Retirement Fund

Statement of Changes in Fiduciary Net Position

For Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

Additions	
Contributions	
Employee	$ 480,136
Employer	544,667
Direct Aid (State/City/District)	211,754
Total Contributions	$ 1,236,557
Investment Income	
Net Appreciation in Fair Value of Investments	$ 3,302,484
Investment Expense	(108,835)
Net Investment Gain	**$ 3,193,649**
Securities Lending Activities:	
Securities Lending Income	$ 77,154
Securities Lending Expenses:	
Borrower rebates	$ (70,562)
Management Fees	(1,186)
Total Securities Lending Expenses	**$ (71,748)**
Net Income from Securities Lending	**$ 5,406**
Total Net Investment Gain	**$ 3,199,055**
Other Income	$ 803
Total Additions	**$ 4,436,415**
Deductions	
Retirement Benefits Paid	$ 2,059,353
Earnings Limitation Savings Account	83
Refunds of Contributions to Members	21,501
Administrative Expenses	17,502
Total Deductions	**$ 2,098,439**
Net Increase	**$ 2,337,976**
Net Position Restricted for Pensions	
Beginning of Year	$26,754,503
End of Year	$29,092,479

The accompanying notes are an integral part of this statement.

1. Description of TRA

A. Organization

The Teachers Retirement Association (TRA) is the administrator of a multiple employer, cost-sharing retirement fund. TRA administers a Basic Plan (without Social Security coverage) and a Coordinated Plan (coordinated with Social Security coverage) in accordance with Minnesota Statutes, Chapters 354 and 356. Assets of the fund may be used to pay benefits to both Basic and Coordinated members without legal restriction.

B. Participating Members and Employers

TRA membership is required for teachers employed in Minnesota's public elementary and secondary schools, charter schools, and certain educational institutions maintained by the state (except those teachers employed by the St. Paul School District and certain educators employed by Minnesota State).

State university, community college, and technical college teachers who were first employed by Minnesota State may choose to elect TRA coverage within one year of eligible employment, or elect coverage through the Defined Contribution Retirement Plan (DCR) administered by Minnesota State. A teacher employed by Minnesota State and electing DCR plan is not a member of TRA except for purposes of Social Security coverage.

A schedule of employer units and membership is presented in *Figure 1, Employer Units and Membership*.

Figure 1. Employer Units and Membership

Employer Units	
Independent School Districts	369
Colleges and Universities	34
State Agencies	4
Charter Schools	185
Professional Organizations	3
Total Employer Units	**595**
Membership	
Retirees, Disabilitants and Beneficiaries receiving benefits	70,480
Terminated members with deferred vested benefits	20,606
Other terminated, non-vested members entitled to a refund of contributions	41,476
Subtotal	**132,562**
Current Employees	
Vested	69,058
Non-vested	16,904
Subtotal	**85,962**
Total Membership	**218,524**

C. Benefit Provisions

TRA provides retirement benefits, as well as disability benefits to members and benefits to survivors upon the death of eligible members. All benefits vest after three years of eligible service credit. The defined retirement benefits are based on a member's highest average salary for any consecutive 60 months of formula service, age and years of formula service credit at termination of service. TRA members belong to either the Basic or Coordinated Plan.

Two methods are used to compute benefits for TRA's Coordinated and Basic Plan members. Members first employed **before July 1, 1989,** receive the greater of the Tier I or Tier II benefits as described:

Tier I	Step Rate Formula	Percentage
Basic	1st 10 years of service	2.2% per year
	All years after	2.7% per year
Coordinated	1st 10 years of service (service years are prior to July 1, 2006)	1.2% per year
	1st 10 years of service (service years are on or after July 1, 2006)	1.4% per year
	All other years of (service years are prior to July 1, 2006)	1.7% per year
	All other years of (service years are on or after July 1, 2006)	1.9% per year

With the following provisions:

a. Normal retirement age is 65 with less than 30 years of allowable service and 62 with 30 or more years of allowable service credit.

b. 3% per year early retirement reduction for all years under normal retirement age.

c. Unreduced benefits for early retirement under a Rule-of-90 (age plus allowable service credits equals 90 or more).

Or

For years of service prior to July 1, 2006, a level formula of 1.7% per year for Coordinated plan members and 2.7% per year for Basic Plan members. For years of service July 1, 2006 and after, a level formula of 1.9% per year for Coordinated members and 2.7% for Basic members applies. An early retirement reduction is applied to members retiring prior to age 65. Members who reach age 62 with 30 years of service have a lower (more favorable to the member) reduction rate applied.

Tier II Benefits

Members first employed **after June 30, 1989**, receive only the Tier II benefit calculation with a normal retirement age that is their retirement age for full Social Security retirement benefits, but not to exceed age 66. After July 1, 2024, the age will change to not to exceed 65. An early retirement reduction is applied to members retiring before age 66, but will be age 65 after July 1, 2024. Members who reach age 62 with 30 years of service have a lower (more favorable to the member) early retirement reduction rate applied.

Other

Former Minneapolis Teachers Retirement Fund Association (MTRFA) members with Basic Program eligibility retain the plan provisions of the Basic Program as defined in the MTRFA Articles of Incorporation and Bylaws as they existed at the merger on June 30, 2006. Four former MTRFA active and inactive members retain Basic Program coverage.

Former members of the Duluth Teachers Retirement Fund Association (DTRFA) retain the plan provisions as defined in the DTRFA Articles of Incorporation and Bylaws as they existed at the merger on June 30, 2015.

The benefit provisions stated in the preceding paragraphs of this section are current provisions and apply to active plan participants. Vested, terminated members who are entitled to benefits, but are not yet receiving them, are bound by the provisions in effect at the time they last terminated their public service. Pension benefits are funded from member and employer contributions and income from investment of fund assets.

D. Reporting Entity

TRA functions as a statutory entity created by the Minnesota Laws of 1931, Chapter 406. The Association maintains rights to sue or be sued in its own name and to hold property in its own name. For financial reporting purposes, TRA is considered a pension trust fund of the State of Minnesota and is included in the State's Annual Comprehensive Financial Report (ACFR) with its fiduciary funds.

The State of Minnesota acts as a fiduciary and trustee of TRA's funds. The eight member Board of Trustees is defined by Minnesota Statute, Section

354.06, and consists of four active member representatives, one retired member representative, and three statutory officials. The State Legislature determines the contribution rates for members and employers and sets benefits provisions. The Board of Trustees is responsible for TRA's administration and Minnesota State Board of Investment (SBI) is responsible for investing plan assets.

2. Summary of Significant Accounting Policies

A. Basis of Presentation and Basis of Accounting

The basis of presentation in preparing the TRA accompanying financial statements is performed in accordance with Generally Accepted Accounting Principles (GAAP). TRA adheres to accounting and financial reporting standards established by the Governmental Accounting Standards Board (GASB). GASB is the independent, not-for-profit, standards-setting organization and the official source of GAAP for state and local governmental entities in the United States of America. TRA's financial reporting is performed in accordance with the GASB requirements through Statement 95, and including GASB Statement 98.

The basis of accounting indicates the timing of transactions or events for recognition in the financial statements. TRA's financial statements are prepared using the accrual basis of accounting. Employee contributions, employer contributions, and related receivables are recognized as revenues when due, pursuant to statutory requirements. Annuity benefits, refunds and expenses are recognized when due and payable in accordance with Minnesota Statutes, Chapters 354 and 356. Administrative and other expenses, and the associated liabilities, are recognized when the liability is incurred.

TRA implemented no changes in accounting principles during fiscal year 2024.

B. Cash, Cash Equivalents and Accounts Receivable

TRA's defined benefit retirement funds, cash and cash equivalents include cash on deposit in the state's treasury, commingled with other state funds, and short-term investments. Cash on deposit consists of year-end receipts not yet processed as of the investment cutoff on June 30, 2024. Short-term investments, which SBI staff manages, include U.S. Treasury issues, repurchase agreements, banker's acceptances, commercial paper, money market, and certificates of deposit.

Amounts classified as accounts receivable consist primarily of employee and employer contributions, calculated as a percentage of each employee's salary. They are direct statutory payments from employers received after the fiscal year end on salaries earned prior to June 30, 2024. Under Minnesota Statutes, Section 354.52, subdivision 4, TRA employers must remit contributions within 14 days after the member is paid. A Schedule of Accounts Receivable as of June 30, 2024, is presented in *Figure 2, Schedule of Accounts Receivable.*

Figure 2. Schedule of Accounts Receivable

(Dollars in Thousands)

Description	Amount
Member contributions	$ 13,117
Employer contributions	14,884
State Board of Investment	351
Interagency Receivable	14
Retirement Building	1
Other	2,277
Total Receivables	**$ 30,644**

C. Investment Policies

SBI was established by Article XI of the Minnesota Constitution to invest all state funds. Its membership is composed of the Minnesota Governor (who is designated as chair of the Board), State Auditor, Secretary of State, and Attorney General. The legislature has also established a 17 member Investment Advisory Council (IAC) to advise SBI and its staff on investment related matters. TRA's Executive Director is a permanent member of the IAC.

The state's public retirement fund assets are commingled in various pooled investment accounts, commonly referred to as the Combined Fund, as established in Minnesota Statutes Chapter 11A. Each participating retirement fund owns an undivided participation in the Combined Funds' pooled investment accounts.

SBI investment policy may be amended by a majority vote of the Board. The policy outlines the investment philosophy and guidelines within which the Combined Fund's investments will be managed.

Description of Significant Investment Policy Changes During the Year

SBI had no significant investment changes during the year.

Valuation of Investments

Investments in the Combined Funds are reported on a trade date basis and at fair value. Fair value is the proportionate share of the combined market value of the investment portfolio of the SBI investment pool in which the funds participate. All securities within the pools are valued at fair value except for U.S. government short-term securities and commercial paper, which are valued at fair value less accrued interest. Accrued interest is recognized as short-term income. SBI values long-term fixed income securities by using various valuation systems which provide prices for both actively traded and privately placed bonds. For equity securities, SBI uses various valuation services. Fair value is the last reported sales price for securities traded on national or international exchanges. If a security is not actively traded, then the fair value is based on the analysis of financial statements, analysis of future cash flows and independent appraisals.

Assumptions made in valuing securities are as follows:

- Values of actively traded securities determined by recognized exchanges are objectively negotiated purchase prices between willing buyers and sellers, and are not subject to either undue influence or market manipulation. Securities traded on a national or international exchange are valued using the last reported trade price.
- Values of securities not actively traded are determined by objective appraisals by qualified professional analysts whose results would not vary materially from those of other similarly qualified professionals. The fair value of investments is based upon valuations provided by a recognized pricing service. Short-term investments are reported at cost, which approximates fair value. The fair value of real estate investments is based on independent yearly appraisals. Investments that do not have an established market are reported at estimated fair value.

The term "market value" is used when describing asset valuation methods for actuarial purposes, and is used consistently throughout the Actuarial Section and in other places in the ACFR when referring to funded status. "Market value" is equivalent to "Fair value."

Investment Income

Investment income is recognized as it is earned. Accrued investment income of the pooled investment accounts is included in participation in the accounts. Gains and losses on sales or exchanges are recognized on the transaction date.

Investment Expenses

For financial reporting purposes, the cost of security transactions is included in the transaction price. Investment expenses include administrative expenses of the SBI to manage the state's comprehensive investment portfolio and investment management fees paid to the external money managers and the state's master custodian for pension fund assets. These expenses are allocated proportionately to the funds participating in the pooled investment accounts. Details of these expenses are presented in the *Schedule of Investment Management Fees* (pages 70-72) found within the unaudited Investment Section of this ACFR.

TRA's financial statements have historically reported investment expenses for management fees for public market investments. For the fiscal year 2024, the *Statement of Changes in Fiduciary Net Position* lists expenses for investment management fees for all asset class categories, including private markets. Investment returns throughout the ACFR are net of all public and private market investment management fees, including the effect of any profit-sharing arrangements. This change has no effect on the net investment income or the net position restricted for pensions.

A detailed schedule of fees and commissions SBI paid to brokerage firms, along with the number of shares traded, total commissions, commissions per share for the pooled investment accounts, and other investment information may be obtained from:

Minnesota State Board of Investment
Retirement Systems of Minnesota Building
60 Empire Drive, Suite 100
Saint Paul, Minnesota 55103

Asset Allocation

To match the long-term nature of pension obligations, SBI maintains a strategic asset allocation for the Combined Funds that includes allocations to public equity (both domestic and international), fixed income, and private markets. The target allocation is shown in *Figure 3* and the asset allocation at June 30, 2024 is shown in *Figure 4 (on next page).*

Excluding Private Markets, if an actual allocation deviates 10% or more from the target allocation, assets are rebalanced to achieve long-term allocation targets. For example, the target allocation for Fixed Income is 25% of the fund. (A 10% deviation would equal 2.5%). SBI recognizes that in some market situations the allocation to Private Markets may exceed 25% but by Statute may not exceed 35%.

The long-term expected return on investment is based on the asset allocation study completed by SBI in 2016, with subsequent periodic reviews. An asset allocation study is currently being conducted and will be completed during fiscal year 2025.

SBI's long-term expected rate of return on pension plan investments was determined using a building-block method. Best estimates for expected future real rates of return (expected returns, net of inflation) were developed for each asset class using both long-term historical returns and long-term capital market expectations from a number of investment management and consulting organizations. The asset class estimates and the target allocations were then combined to produce a geometric, long-term expected real rate of return for the portfolio. Inflation expectations were applied to derive the nominal rate of return for the portfolio.

Figure 3. Asset Allocation Targets

June 30, 2024

Public Equity		50%
-Domestic Equity	33.5%	
-International Equity	16.5%	
Fixed Income		25%
-Core Bonds & Return Seeking Bonds	10%	
-Treasuries	10%	
-Cash & Laddered Bonds	5%	
Private Markets		25%

Figure 4. Target Asset Allocation and Long Term Expected Real Rate of Return

Asset Class	Target Allocation	Long-term Expected Real Rate of Return (Geometric Mean)
Domestic Equity (1)	33.50%	5.10%
International Equity (2)	16.50%	5.30%
Private Markets (3)	25.00%	5.90%
Fixed Income (4)	25.00%	0.75%
Total	100.00%	

(1) Domestic Equity includes US Stock Actively Managed and the US Stock Index Fund.

(2) International Equity includes Broad International Stock Fund.

(3) Private Markets includes the Alternative Investment Pool. If a 25% allocation to Private Markets cannot be achieved, the uncommitted allocation is invested in Public Equities.

(4) The Target Allocation combines Fixed Income investment options (10% in Core Bonds, 10% in Treasuries, and 5% in Cash & Laddered Bonds).

The pooled accounts have not been rated for credit quality. Figure 5, TRA Investment Portfolio, provides a summary of the cost and fair values of the investments as of June 30, 2024, as reported on the *Statement of Fiduciary Net Position* (page 25)

Figure 5. TRA Investment Portfolio
(Dollars in Thousands)

TRA Investment Portfolio: June 30, 2024		
TRA Fund	**Cost**	**Fair**
Pooled Accounts		
Treasuries Pool	$ 3,135,895	$ 2,739,569
Bond Pool	1,747,479	1,641,096
Alternative Investments	6,236,129	7,058,107
US Stock Index Pool	5,071,055	7,563,717
US Stock Actively	2,233,466	2,163,762
Broad International	3,886,948	4,586,363
Global Equity	292,432	328,307
Return Seeking Fixed Income	1,440,653	1,415,218
Short Duration Laddered Bonds	986,153	1,021,792
Total	$ 25,030,210	$ 28,517,931
Short Term Cash Equivalents		
Money Market	$ 489,056	$ 490,795
CD Repo Pool	62,081	62,355
Total	$ 551,137	$ 553,150
Total Invested	$ 25,581,347	$ 29,071,081

Net investment income is summarized on the *Statement of Changes in Fiduciary Net Position* (page 26). The summarized amounts show net investment gain of $3.2 billion for fiscal year 2024.

Annual money-weighted return on plan investments

For the year ended June 30, 2024, the annual money-weighted rate of return on the assets of the combined retirement fund, net of investment management fees and the effect of any profit-sharing arrangements, was 12.3% (*Figure 6. 10-Year Schedule of Investment Returns using the Money-Weighted Method*). The money-weighted rate of return expresses investment performance, net of investment management fees and the effect of any profit-sharing agreements, adjusted for the changing amounts actually invested.

Explanation of money-weighted return

The money-weighted rate of return is a method of calculating period-by-period returns on pension plan investments that adjusts for the changing amounts actually invested. For purposes of GASB 67, the money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of investment management fees, and the effect of any profit-sharing arrangements.

Figure 6. 10-Year Schedule of Investment Returns using the Money-Weighted Method

Year	Investment Return
FY 2024	12.3%
FY 2023	8.9%
FY 2022	(6.2)%
FY 2021	30.3%
FY 2020	4.2%
FY 2019	7.3%
FY 2018	10.5%
FY 2017	15.2%
FY 2016	(0.1)%
FY 2015	4.5%

Investment Performance is presented net of investment management fees and the effect of any profit-sharing arrangements.

D. Capital Assets

Capital assets are capitalized at the time of acquisition at cost. Assets with a cost in excess of $30,000 and internally generated software development costs in excess of $1,000,000 are capitalized.Depreciation and amortization are computed on a straight-line method over the useful life of the related assets. The estimated useful lives by major category are: computer equipment (3 years), general office equipment (5 years), modular office furniture (10 years) and internally generated software (10 years).

Capital assets are presented on the June 30, 2024, *Statement of Fiduciary Net Position*. The year-end balance plus changes during the year are shown in *Figure 7, Schedule of Capital Assets*.

E. Accrued Compensated Absences

Employees of TRA accrue vacation leave, sick leave, and compensatory leave at various rates within limits specified in collective bargaining agreements. Accumulated amounts for compensated absences are accrued when incurred. Such leave is liquidated in cash primarily at the time of termination of employment. The total liability at June 30, 2024, is $1,093,000. Of this, $107,000 is considered a short-term liability and $986,000 is shown as a long-term liability on the *Statement of Fiduciary Net Position*. The total increased by $11,000 during fiscal year 2024.

Figure 7. Schedule of Capital Assets

(Dollars in Thousands)

Description	Balance 7/1/2023	Additions	Deletions	6/30/2024
Furniture and equipment	$ 3,486	$ —	$ (8)	$ 3,478
Reserve for depreciation	(3,460)	(26)	8	(3,478)
Internally developed software	20,116	—	—	20,116
Reserve for amortization	(15,575)	(2,011)	—	(17,586)
Net Capital Assets	$ 4,567	$ (2,037)	$ —	$ 2,530

3. Deposits and Investment Risk Disclosures

A. Fair Value Reporting

GASB Statement 72 (GASB 72), Fair Value Measurement and Application, sets forth the framework for measuring the fair value of investments based on a hierarchy of valuation inputs. The hierarchy has three Levels:

Level 1: Market valuation approach using quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.

Level 2: Market valuation approach using inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. Inputs for Level 2 include:

- Quoted prices for similar assets or liabilities in active markets;
- Quoted prices for identical or similar assets or liabilities in inactive markets;
- Inputs other than quoted prices that are observable for the asset or liability;
- Inputs derived principally from or corroborated by observable market data by correlation or other means.

Level 3: Unobservable inputs for the asset or liability. Unobservable inputs reflect SBI's assumptions about the inputs that market participants would use in pricing an asset or liability. Assets classified as a Level 3 typically use the cost approach, income approach, or consensus pricing for a valuation technique.

Net Asset Value (NAV): Investments that do not have a readily determinable fair value are measured using the NAV per share (or its equivalent) as a practical expedient, and are not classified in the fair value hierarchy.

Cash and cash equivalents (investments with less than 12 months to maturity) are not leveled per GASB 72. All non-cash investments, including derivative investments that are not hedging derivatives, are required to be measured at fair value on a recurring basis. SBI maintains investment pools that participants can invest in; participants own a proportionate share of the investment pools. The fair value of the investment pools is priced daily by the SBI custodian, when a daily price is available, by using independent pricing sources.

In *Figure 8, Fair Value of TRA Investments*, Level 3 investments primarily consist of assets where the asset is distressed, or there is not an active market.

The fair values of the assets measured at NAV have been determined using the March 31, 2024 values adjusted for cash flows. The investments measured at NAV are typically not eligible for redemption. Distributions are received as underlying investments when the funds are liquidated, which occur over the life of the investment. The typical liquidation period for alternative investments ranges from 3 to 12 years. The majority of the distribution is received during the liquidation period, however it is not uncommon for a minimal amount of the fund to remain open while awaiting final close.

As of June 30, 2024, the alternative investments are not expected to be sold at an amount different from the NAV value of SBI's ownership interest in partner's capital. SBI has 192 Private Equity investments representing 73.5% of the NAV value (Investments Measured at Net Asset Value). There are 43 out of 192 Private Equity funds that are over the 12-year liquidation period and represent 7.9% of the Private Equity NAV value.

SBI has 36 Real Estate investments representing 9.4% of the NAV value. There are 6 out of 36 Real Estate funds that are over the 12-year liquidation period and represent 0.9% of the Real Estate NAV value.

SBI has 33 Real Assets investments representing 9% of the NAV value. There are 15 out of 33 Real Assets funds that are over the 12-year liquidation period and represent 22.7% of the Real Assets NAV value.

SBI has 41 Private Credit investments representing 8.1% of the NAV value. There are 10 out of 41 Private Credit funds that are over the 12-year liquidation period and represent 6.1% of the Private Credit NAV value

TRA has a total of $3.6 billion in unfunded commitments. Unfunded commitments is money that has been committed to an investment but not yet transferred to the General Partner (Investor).

Explanations of investment types follow *Figure 8. Fair Value of TRA Investments*.

Figure 8. Fair Value of TRA Investments

As of June 30, 2024

(Dollars in Thousands)

Investments	Fair Value	Level 1	Level 2	Level 3
Equity				
Common Stock	$ 13,772,568	$ 13,772,051	$ 413	$ 104
Real Estate Investment Trust	244,153	244,153	—	—
Other Equity	473,384	261,383	1,022	210,979
Equity Total	$ 14,490,105	$ 14,277,587	$ 1,435	$ 211,083
Fixed Income				
Asset-Backed Securities	$ 354,643	$ —	$ 332,135	$ 22,508
Mortgage-Backed Securities	999,223	—	998,711	512
Corporate Bonds	1,610,695	—	1,609,145	1,550
Government Issues	3,696,872	—	3,696,872	—
Fixed Income Total	$ 6,661,433	$ —	$ 6,636,863	$ 24,570
Investment Derivatives				
Rights	$ 7	$ 7	$ —	$ —
Warrants	19	19	—	—
Futures	116	116	—	—
Derivative Total	$ 142	$ 142	$ —	$ —
Total Investments by Fair Value	$ 21,151,679	$ 14,277,729	$ 6,638,298	$ 235,653

Investments Measured at the Net Asset Value (NAV)

	NAV	Unfunded Commitments	Number of Investments	Percent of the NAV
Private Equity	$ 5,177,202	$ 2,513,386	192	73.5%
Real Estate	658,443	511,826	36	9.4%
Real Assets	635,986	201,075	33	9.0%
Private Credit	569,378	391,065	41	8.1%
NAV total	$ 7,041,009	$ 3,617,352	302	100.0%

Note: *Cash, cash equivalents, and derivative futures (hedge type instruments) are not leveled under GASB Statement 72, are not included in this exhibit. Any variance between recorded account balances and the fair value of investments as reported in the exhibit are accounts payable and accounts receivable items on June 30, 2024, and not leveled under GASB Statement 72.*

Investment types used in Figure 8:

Equity

Common Stock: Securities representing equity ownership in a corporation, providing voting rights, and entitling the holder to a share of the company's success through dividends and/or capital appreciation.

Real Estate Investment Trust (REIT): An investment pool established by a group of investors for the purpose of investing in real estate or mortgages. REITs are generally exempt from federal taxes, provided that 95% of earned income is distributed and that the various investors are not treated differently.

Other Equity: Includes Preferred Stock, Depository Receipts, Limited Partnership Units, Common Stock Units, Mutual Funds, and Non-Security Asset Stock.

Fixed Income

Asset Backed Securities: Bonds or notes backed by financial assets, including auto loans and credit card receivables.

Mortgage Backed Securities: An asset-backed security that is secured by a mortgage or collection of mortgages. The mortgages are sold to a government agency or investment bank that will package the loans together into a security that can be purchased by investors.

Corporate Bonds: Debt obligations issued by corporations as an alternative to offering equity ownership by issuing stock. Like most municipal bonds and Treasuries, most corporate bonds pay semi-annual interest and promise to return their principal when they mature. Maturities range from 1 to 30 years.

Government Issue: Securities or bonds issued by any of the 50 states, the territories and their subdivisions, counties, cities, towns, villages and school districts, agencies (such as authorities and special districts created by the states), and certain federally sponsored agencies such as local housing authorities.

Investment Derivatives

Rights: The right to purchase newly issued securities in proportion to the investor's holdings of certain stocks. Generally, they are actively traded and must be exercised within a short period of time.

Warrants: The right to purchase one or more shares of stock. Warrants are usually attached to other issues purchased by an investor. They are often detachable and can be exercised over a long period (five to ten years). A warrant, because it has a value of its own, can be traded.

Options – Futures: A contract that gives the holder the right to buy from or sell to the writer a specified amount of securities at a specified price, good for a specified period of time. An American option can be exercised at any time prior to its expiration. A European option can be exercised only on its expiration date.

Investments Measured at the Net Asset Value (NAV)

Private Equity: The private equity investment strategy is to establish and maintain a broadly diversified private equity portfolio composed of investments that provide diversification by industry type, stage of corporate development and location.

Real Estate: The real estate investment strategy calls for the establishment and maintenance of a broadly diversified real estate portfolio composed of investments that provide overall diversification by property type and location. The main components of this portfolio consist of investments in closed-end commingled funds. The remaining portion of the portfolio may include investments in less diversified, more focused (specialty) commingled funds and REITs.

Real Assets: The strategy for real assets investments is to establish and maintain a portfolio of real assets investment vehicles that provide an inflation hedge and additional diversification. Real Assets investments will include oil and gas investments and energy service industry investments that are diversified by geographic area as well as by type.

Private Credit: The strategy for private credit investments is to target funds that typically provide a current return and may have an equity component. Structures such as subordinated debt investments and mezzanine investments are typical yield-oriented investments.

B. Investment Risk

SBI is responsible for the investing of TRA assets under the authority of Minnesota Statutes, Section 11A.24. The following disclosures apply to TRA investments.

C. Custodial Credit Risk

Custodial credit risk for cash deposits and investments is the risk that, in the event of a bank or custodian failure, TRA will not be able to recover the value of its investments or collateral securities. Cash consists of year-end receipts not processed as of the investment cutoff deadline on June 30th. TRA cash funds are held in the state treasury, commingled with other state funds. Minnesota Statute, Section 9.031 requires that deposits be secured by depository insurance or a combination of depository insurance and collateral securities held in the state's name by an agent of the state. Such insurance and collateral shall be in amounts sufficient to ensure that deposits do not exceed 90% of the sum of the insured amount and the fair value of the collateral. Throughout fiscal year 2024, the combined depository insurance and collateral was sufficient to meet legal requirements and secure all TRA deposits, eliminating exposure to custodial credit risk.

D. Credit Risk

Credit risk is the risk that an issuer or counterparty to an investment will be unable to fulfill its obligations. SBI has policies designed to minimize credit risk. They may invest funds in governmental obligations provided the issue is backed by the full faith and credit of the issuer or the issue is rated among the top four quality rating categories by a nationally recognized rating agency. They may invest funds in corporate obligations provided the issue is rated among the top four quality categories by a nationally recognized rating agency. They may also invest in unrated corporate obligations or in corporate obligations that are not rated among the top four quality categories provided that:

- The aggregate value of these obligations may not exceed 5% of the fund for which the state board is investing;
- Participation is limited to 50% of a single offering; and
- Participation is limited to 25% of an issuer's obligations.

SBI may also invest in bankers acceptances, deposit notes of U.S. banks, certificates of deposit, mortgage securities, and asset backed securities rated in the top four quality categories by a nationally recognized rating agency. Commercial paper must be rated in the top two categories.

As of June 30, 2024, TRA's proportionate share of SBI's exposure to credit risk, based on the lower Standard and Poor's or Moody's Quality ratings for debt securities and short-term investments, is shown in *Figure 9, Credit Risk Exposure*. For clarity of reporting, Moody's ratings are displayed in this figure using the comparable Standard and Poor's rating. If only one rating exists, that rating is used.

Figure 9. Credit Risk Exposure

(Dollars in Thousands)

Quality Rating	Fair Value
AAA	$ 237,785
AA	4,472,511
A	220,394
BBB	799,211
BB	365,174
B	307,122
CCC	147,221
CC	18,288
C	787
D	3,498
Unrated	1,204,014
Total	$ 7,776,005

E. Concentration of Credit Risk

Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issuer. SBI determines concentration of credit risk based on security identification number.

TRA does not have exposure to a single issuer that equals or exceeds 5%; therefore, there is no material concentration of credit risk.

F. Interest Rate Risk

Interest rate risk is the risk that changes in interest rates of debt investments could adversely affect the fair value of an investment. SBI controls interest rate risk through guidelines developed for each portfolio. TRA's share of the debt securities are held in external investment pools and have the weighted. average maturities as shown in Figure 10, Interest Rate Risk.

Figure 10. Interest Rate Risk

Security Type	Weighted Average Maturity (*in Years*)
Municipal	14.05
U.S. Treasury	13.19
Collateralized Mortgage Obligation	8.91
Foreign Country Bonds	7.66
Mortgage Pass-Through	7.62
Yankee	7.41
Cash Equivalent	6.29
Agency	6.19
Corporate Debt	6.03
Asset Backed	5.20
Bank Loan	4.69

G. Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates between the U.S. dollar and foreign currencies could adversely affect the fair value of an investment. Most foreign currency risk resides within SBI's international equity investment holdings. In order to reduce foreign currency risk, SBI has developed and implemented a number of policies. Government obligations, including guaranteed or insured issues of the International Bank for Reconstruction and Development, the Inter-American Development Bank, the Asian Development Bank, and the African Development Bank, must pay interest and principal in U.S. dollars. The principal and interest of obligations of corporations, including those corporations incorporated or organized under the laws of the Dominion of Canada or any province thereof, must also be paid in U.S. dollars. SBI uses a foreign currency overlay manager to implement an active hedging program for its international developed markets passive equity portfolio. In addition, SBI active managers also have discretion to use forward currency contracts within their portfolios to hedge foreign currency risk as they deem appropriate. TRA's share of investments as of June 30, 2024, was distributed among the currencies as shown in *Figure 11, Schedule of Foreign Currency Risk*.

Figure 11. Schedule of Foreign Currency Risk

(Dollars in Thousands)

Currency	Cash	Fixed Income	Equity	Total
Australian Dollar	$ 528	$ 17	$ 197,590	$ 198,135
Brazilian Real	641	10,850	58,931	70,422
Canadian Dollar	4,965	1,096	323,560	329,621
Chilean Peso	—	457	1,493	1,950
Colombian Peso	28	3,194	342	3,564
Czech Koruna	17	4,196	460	4,673
Danish Krone	149	—	139,002	139,151
Dominican Peso	—	530	—	530
Egyptian Pound	—	—	253	253
Euro Currency	2,807	47,862	1,584,707	1,635,376
Hong Kong Dollar	765	—	250,008	250,773
Hungarian Forint	31	1,498	6,471	8,000
Indian Rupee	—	643	—	643
Indonesian Rupiah	61	4,844	23,263	28,168
Japanese Yen	4,111	36	679,694	683,841
Kuwaiti Dinar	8	—	2,479	2,487
Malaysian Ringgit	22	4,594	4,680	9,296
Mexican Peso	954	12,245	25,089	38,288
New Israeli Sheqel	96	—	10,530	10,626
New Taiwan Dollar	1	—	188,197	188,198
New Zealand Dollar	59	—	3,902	3,961
Norwegian Krone	216	—	23,879	24,095
Paraguay Guarani	—	173	—	173
Philippine Peso	—	51	2,133	2,184
Polish Zloty	1	4,368	7,836	12,205
Pound Sterling	2,868	9,393	463,371	475,632
Qatari Rial	2	—	2,748	2,750
Romanian LEU	(30)	1,618	1,080	2,668
Russian Ruble	(2)	—	—	(2)
Saudi Riyal	7	—	16,267	16,274
Singapore Dollar	123	—	43,999	44,122
SOL	—	2,844	—	2,844
South African Rand	96	4,754	22,912	27,762
South Korean Won	—	—	177,224	177,224
Swedish Krona	176	—	97,666	97,842
Swiss Franc	419	—	274,764	275,183
Thailand Baht	49	4,276	17,253	21,578
Turkish Lira	19	1,063	6,731	7,813
UAE Dirham	—	—	6,893	6,893
Uruguayan Peso	—	456	—	456
Yuan Renminbi	(556)	2,290	36,615	38,349
Total	**$ 18,631**	**$ 123,347**	**$ 4,702,024**	**$ 4,844,003**

H. Derivative Financial Instruments Governmental Accounting Standards Board (GASB) Statement 53 Disclosures:

On behalf of TRA, SBI invests in various types of derivative financial instruments. Derivatives are defined as financial arrangements between two parties that has value based on or derived from future price fluctuations. Derivative financial instruments used by the SBI include futures, options, stock warrants and rights, currency forwards, swaps and synthetic guaranteed investment contracts. For accounting purposes, derivative instruments are considered to be investments and not hedges.

Minnesota Statutes, Section 11A.24, provides that any agreement for put (sell) and call (buy) options and futures contracts may only be entered into with a fully offsetting amount of cash or securities. This applies to foreign currency forward contracts used to offset the currency risk of a security. All other derivatives are exchange-traded. The purpose of SBI's derivative activity is to equitize cash in the portfolio, to adjust the duration of the portfolio, or to offset current futures positions.

The fair value balances and notional amounts (or face value) at June 30, 2024, classified by derivative instrument type (e.g., futures, options, currency forwards, and stock warrants and rights), and the changes in fair value for fiscal year 2024 are shown in *Figure 12, Schedule of Derivative Financial Instruments*. Explanations of each derivative instrument type are presented below:

- **Futures** are contract commitments to purchase (asset) or sell (liability) at a future date. The net change in the values of futures contracts is settled on a regular basis and gains and losses are included in investment income.
- **Options** are contracts that give buyers or sellers the right to buy (calls) or sell (puts) a security at a predetermined price at a future date. Gains and losses result from variances in the fair value of the security that is the subject of the contract that occur prior to or on the contract specified date. The gains and losses are included in investment income.
- **Currency Forward Contracts** are used to manage portfolio foreign currency risk. The provisions of the contract vary based on what is negotiated between the two parties to the contract.
- **Stock Warrants and Rights**, similar to Options, these instruments offer the right to purchase shares of a stock at a certain price by a certain date. They usually have a longer term before expiration, e.g., five years or more. When exercised, new shares are issued by the company. Rights are the same but are issued to current stock owners to enable them to retain their relative ownership share. Gains and losses from the sale or exercise of stock warrants and rights are included in investment income.
- **Swaps:** A derivative contract through which two parties exchange the cash flows or liabilities from two different financial instruments. Most swaps involve cash flows based on a notional principal amount such as a loan, bond, or currency. Usually, the principal does not change hands. Each cash flow comprises one leg of the swap. One cash flow is generally fixed, while the other is variable and based on a benchmark interest rate, floating currency exchange rate or index price. The most common kind of swap is an interest rate swap, but currency swaps and credit default swaps on a reference security or basket of securities are also common.

SBI is exposed to credit risk through counterparties in foreign currency forward contracts that are used to offset the currency risk of a security. TRA is exposed to credit risk through 27 counterparties. TRA's proportionate share of the maximum loss that SBI would have recognized as of June 30, 2024, if all counterparties failed to perform as contracted is $146.1 million. These counterparties have S&P ratings of BBB+ or better. There is no collateral held or any liabilities included in netting arrangements with those counterparties that would have reduced SBI's exposure to credit risk.

Figure 12. Schedule of Derivative Financial Instruments

(Dollars in Thousands)

Derivative Investment Type	Changes in Fair Value During Fiscal Year 2024	Fair Value at June 30, 2024	Notional Amount
Futures			
Index Futures – Long	$ 5,876	$ —	$ 32
Index Futures – Short	227	—	—
Fixed Income Futures – Long	(26,153)	—	585,705
Fixed Income Futures – Short	18,585	—	(352,508)
Options			
Futures Options – Bought	(2,791)	190	647
Futures Options – Written	1,022	(74)	(924)
Equity Options – Bought	—	—	—
Equity Options – Written	—	—	—
Fixed Income Options – Written	31	—	(5,411)
Currency Forwards			
Foreign Currency Forwards	40,643	32,057	6,811,926
Stock Warrants and Rights			
Stock Warrants	8	19	29
Stock Rights	5	7	86
Swaps			
Credit Default – Bought	42	(223)	3,553
Credit Default – Written	521	1,930	53,349
Pay Fixed Interest Rate	1,718	1,227	82,064
Receive Fixed Interest Rate	(618)	(232)	36,075
Total Return Swaps Equity	113	9	(851)

I. Securities Lending

Governmental Accounting Standards Board (GASB) Statement 28 Disclosures

TRA does not own specific securities, but instead owns shares in pooled funds invested by SBI. SBI is authorized to use securities lending transactions in accordance with Minnesota Statutes, Section 356A.06, subdivision 7, and has, pursuant to a Securities Lending Authorization Agreement, authorized State Street Bank and Trust Company (State Street) to lend its securities to broker-dealers and banks pursuant to a form of loan agreements.

During the fiscal year, State Street lent, on behalf of SBI, certain securities of SBI held by State Street as custodian and received cash or other collateral including securities issued or guaranteed by the United States government. State Street does not have the ability to pledge or sell collateral securities delivered absent a borrow default. Borrowers were required to deliver collateral for each loan equal to at least 100% of the market value of the loaned securities.

Pursuant to the Securities Lending Authorization Agreement, State Street had an obligation to indemnify SBI in the event of default by a borrower. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year that resulted in a declaration of notice of default of the borrower.

During the fiscal year, SBI and the borrowers maintained the right to terminate securities lending transactions upon notice. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool. As of June 30, 2024, such investment pool had an average duration of 3 days and an average weighted maturity of 108.11 days. Because the loans were terminable at will, their duration did not generally match the duration of the investments made with cash collateral. On June 30, 2024, SBI had no credit risk exposure to borrowers. The TRA portion of the market value of the collateral held and the market value of securities on loan from SBI as of June 30, 2024, were $1.8 billion and $1.8 billion respectively. *See Figure 13, Securities Lending* for the detail of the securities on loan*.* Cash collateral totaling $1,244,369,053 is reported on the *Statement of Fiduciary Net Position* as an asset. Liabilities resulting from these securities lending transactions are also reported on the *Statement of Fiduciary Net Position.*

Figure 13. Securities Lending

(Dollars in Thousands)

Investment Type		Amount as of June 30, 2024
Domestic Equity	$	1,251,799
International Equity		88,992
Domestic Corporate Bonds		140,728
U.S. Government Bonds		277,712
Total	$	1,759,231

4. Other Notes

A. Administrative Expenses and Budget

The annual budget of TRA operations is developed by TRA management and approved by the Board of Trustees. The budget is also sent to the Department of Minnesota Management & Budget (MMB) for policy analysis and is included in the Governor's Biennial Budget presentation to the legislature. The legislature adopts appropriation and expenditure amounts resulting in an approved budget for the Association.

TRA administrative costs are not financed by any specific type of contribution or other income of the Fund. Administrative costs are included in the annual determination of the actuarial required contribution rate (page 97, line B3).

B. Earnings Limitation Savings Account (ELSA)

Teachers under their Social Security normal retirement age who resume teaching service for a

TRA-covered employer after retirement are subject to a $46,000 annual earnings limitation.

If a retired member earns more than the limitation, the annuity payable during the following calendar year will be offset one dollar for each two dollars earned in excess of the limitation.

The pension offset amounts are redirected to a separate individual savings account, called the Earnings Limitation Savings Account (ELSA), and later distributed to the retiree. Effective January 1, 2011, ELSA accounts no longer accrue interest. A member may apply for a lump-sum payment or rollover of their ELSA account balance, as long as it has been at least one year after the last deferred amount was redirected to the ELSA account.

Since 2022, ELSA withholding is suspended per the legislature for certain retirees who return to work in Pre-K-12 TRA-covered positions for fiscal years 2022, 2023, and 2024. In the 2024 Omnibus Pension Bill, the suspension was extended for fiscal years 2025, 2026 and 2027 and subsequent retiree benefit withholding in calendar years 2026, 2027, and 2028. This temporary suspension of withholding ELSA does not apply to retirees returning to Minnesota State positions.

As of June 30, 2024, TRA had 102 retirees with an ELSA account established. The total of all ELSA account balances was $804,647. The dollar amount of pension benefits withheld due to excess earnings during fiscal year 2024 was $83,000. ELSA assets are invested in the TRA Fund until distribution. TRA distributed ELSA refunds to 86 members during fiscal year 2024. They totaled $1.7 million and are included as a deduction in the *Statement of Changes in Fiduciary Net Position* as a component of Refund of Contributions to Members.

C. Participating Pension Plan

All 100 employees of TRA are covered by the multiple employer cost sharing defined benefit plan administered by TRA. All TRA employees participate in the Coordinated Plan and are eligible for the plan provisions described in Note 1, C.

Minnesota Statute, Section 354.42 sets the rates for the employee and employer contributions. These statutes are established and amended by the state legislature. During fiscal year 2024, Coordinated members were required to contribute 7.75% of their annual covered salary. Employers contributed 8.75% of their annual covered salary for Coordinated members. The total covered payroll salaries for all TRA employees during fiscal year 2024 was approximately $8.4 million or 0.14% of total membership-covered salaries. The total covered payroll salaries for the entire membership of TRA for fiscal year 2024 was approximately $6.1 billion. TRA paid 100% of its required employer contributions listed below in *Figure 14.*

Figure 14. Schedule of TRA Employer Pension Contributions for TRA Employees

(Dollars in Thousands)

2024	2023	2022
$739	$687	$548

D. Ownership of Office Building

The 1999 Legislature enacted law permitting TRA, the Public Employees Retirement Association (PERA), and the Minnesota State Retirement System (MSRS) to purchase land and construct a 140,000 square foot office building to house the administrative offices of these three state entities. Ownership of the facility is prorated based on the amount of square footage each retirement fund occupies in the building. The building is located on 4.3 acres of land at 60 Empire Drive in Saint Paul. TRA has occupied the fourth Floor of the building since September 2001. TRA's ownership interest is 36%.

In June 2000, the State of Minnesota, under the authority of the Commissioner of Minnesota Management and Budget, issued 30-year revenue bonds totaling $29 million to pay for the construction of the facility. Each owner (retirement fund) is responsible for principal and interest payments based on its ownership percentage.

In August, 2012, the bonds were refunded with the proceeds of a new, lower-interest rate bond issue. The 2013 series $21,880,000 Retirement System Revenue Refunding bonds are secured by the value of the total assets of the retirement systems, excluding any fund related to or dedicated to defined contribution plans administered by the retirement systems. The goal of the 2012 refunding bonds was not only to attempt to approximate the debt service payments that had existed under the 2000 revenue bonds, but to also shorten the repayment period by five years.

Through the issuance of the refunding bonds, which received a AAA rating from both Standard & Poor's and Fitch, the bond term was reduced by five years and the present value of the savings to the retirement systems was $9.6 million. The bonds mature on June 1, 2025. TRA's share of the present value savings of the 2012 bond issuance was approximately $3.5 million.

Figure 15, Schedule of Building Debt Service shows the debt service amounts for which TRA is directly responsible. Pursuant to the joint and several liability clause in the bond sale official statement, in the event of default, TRA could be liable for the entire remaining outstanding principal and premium balances of the bonds, plus the interest accrued for the month of June totaling $1,040,000. Bonds payable on the Statement of Fiduciary Net Position is the TRA share of the outstanding debt, calculated at the TRA building ownership percentage on June 30, 2024 of 36%. Bonds payable includes the principal balance as of June 30, 2023, the premium balance as of June 30, 2023, and the interest accrued for the month of June. TRA has no lines of credit or assets pledged as collateral for debt.

TRA is depreciating its share of the facility over 40 years. The depreciation schedule, shown in *Figure 16, Schedule of Office Building and Equipment,* summarizes the asset valuation of the office building, building equipment and deferred bond charges.

Figure 15. Schedule of Building Debt Service Payments *(Dollars in Thousands)*

(TRA Share @ 36%) Effective: July 1, 2015				
Fiscal Year	**Principal**	**Interest**	**Premium**	**Total**
2025	$ 360	$ 6	$ 8	$ 374
Totals	**$ 360**	**$ 6**	**$ 8**	**$ 374**

Total Unpaid Principal, 6/30/2024	$ 360.0
Total Unpaid Premium, 6/30/2024	8.4
Accrued Interest, June 2024	0.5
Bonds Payable per Statement of Fiduciary Net Position	**$ 368.9**

Figure 16. Schedule of Office Building and Equipment

(Dollars in Thousands)

Description	**(TRA Share @ 36%) Balance 7/1/2023**	**Additions**	**Deletions**	**Balance 6/30/2024**
Land	**$ 171**	**$ —**	**$ —**	**$ 171**
Building	$ 10,637	$ —	$ —	$ 10,637
Reserve for Building Depreciation	(5,993)	(266)		(6,259)
Net Building	**$ 4,644**	**$ (266)**	**$ —**	**$ 4,378**
Building Equipment	$ 108	$ —	$ —	$ 108
Reserve for Depreciation	(108)	—	—	(108)
Net Building Equipment	**$ —**	**$ —**	**$ —**	**$ —**

5. Contributions Required and Made

Contributions totaling $1.2 billion ($480.1 million employee and $756.4 million employer and employer direct aid) were received in accordance with the statutory contribution rates and amounts. On page 97, Line C, statutory contributions are projected as deficient to meet the actuarially determined required contributions. The deficiency is 1.25% of covered payroll. This translates into a contribution deficiency of about $81.4 million projected for fiscal year 2024.

The TRA actuary performs an annual actuarial funding valuation in accordance with Minnesota Statute and the Minnesota Legislative Commission on Pensions and Retirement's (LCPR) Standards for Actuarial Work. The report is meant to assist the legislature in determining the funding progress made towards paying off TRA's unfunded liabilities.

Minnesota Statutes, Chapter 354 sets the rates (page 97, Line A4) for employee and employer contributions.

TRA also uses the level percentage of payroll method to amortize the fund's unfunded liability over a closed period ending June 30, 2048.

6. Net Pension Liability

TRA's actuarial consultant performs another actuarial valuation to comply with the requirements of GASB 67.

The components of the *Net Pension Liability* of the TRA plan as of June 30, 2024, are as follows for participating employers and non-employers:

Net Pension Liability	(Dollars in thousands)
Total Pension Liability (TPL)	$35,446,800
Fiduciary Net Position (FNP)	$29,092,479
Net Pension Liability (NPL)	$6,354,321
Fiduciary Net Position as a percentage of the Total Pension Liability	82.07%

Key Methods and Assumptions Used in Valuation of Total Pension Liability	
Actuarial Information	
Price inflation	2.50%
Salary increases, including price inflation	2.85% to 8.85% before July 1, 2028 and 3.25% to 9.25%, after June 30, 2028
Wage growth rate	2.85% before July 1, 2028, and 3.25%, after June 30, 2028
Payroll growth rate	3%
Long-term rate of return, net of investment expense, including price inflation	7%
Municipal bond index rate	
Prior measurement date	3.66%
Measurement date	3.94%
Year Fiduciary Net Position (FNP) is projected to be depleted	N/A
Single equivalent interest rate (SEIR), net of investment expense, including price inflation	
Prior measurement date	7%
Measurement date	7%

Cost of living adjustment	1.0% for January 2019 through January, 2023, then increasing by 0.1% each year up to 1.5% annually.
Mortality Assumptions Pre-retirement mortality rates were based on the PubT-2010(A) Employee Mortality Table, male rates set forward 1 year and female rates unadjusted. Generational projection uses the MP-2021 scale. Post-retirement mortality rates were based on the PubT-2010(A) Retiree Mortality Table, male rates set forward 1 year and female rates unadjusted. Generational projection uses the MP-2021 scale. Beneficiary mortality rates were based on the Pub-2010(A) Contingent Survivor Mortality Table, male rates set forward 1 year and female rates unadjusted. Generational projection uses the MP-2021 scale. Post-disability mortality rates were based on the PubNS-2010 Disabled Retiree Mortality Table, male rates set forward 1 year and female rates unadjusted. Generational projection uses the MP-2021 scale.	

Discount Rate - Single Equivalent Interest Rate (SEIR) – volatility of SEIR

The discount rate used to measure the TPL as of the Measurement Date was 7%. The projection of cash flows used to determine the discount rate was performed in accordance with GASB 67. On that basis, the *Fiduciary Net Position (FNP)* was not projected to be depleted and, as a result, the Municipal Bond Index Rate was not used in the determination of the SEIR. The SEIR at the prior measurement date was 7%.

Projected Cash Flows

The projection of cash flows used to determine the discount rate assumed that plan contributions from members and employers will be made at the current contribution rates as set out in state statute and supplemental aid will be received as currently provided in statute.

- Employee contribution rates: 11.25% for Basic members and 7.75% for Coordinated members. Effective July 1, 2025 employee contribution rates will increase to 11.5% for Basic members and 8% for Coordinated members.
- Employer contribution rates: 12.75% for Basic members and 8.75% for Coordinated members. In addition, a supplemental amount equal to 3.64% of Salary for Special School District #1 (Minneapolis Schools) members until the Fund is fully funded. Effective July 1, 2025 employer contribution rates will increase to 13.5% for Basic members and 9.5% for Coordinated members.
- HF5040 Pension Budget Omnibus bill signed into law May 15, 2024, appropriated funds to TRA in the amount of $28,462,000 to be paid by October 1, 2024 to cover the liability related to the change of Tier II member normal retirement age from 66 to 65 effective July 1, 2024.
- Supplemental aid: $35,587,410 every year until the amortization date of June 30, 2048 or full actuarial funding is achieved.
- Administrative expenses in the prior year were projected forward with price inflation as an estimate for administrative expenses in current and future years. The portion of expenses in future years allocated to the current members was based on the proportionate share of covered payroll in each year for the remainder of the existing members to the total covered payroll for all members.

Based on those assumptions, the System’s Fiduciary Net Position was projected to be available to make all projected future benefit payments of current System members. Therefore, the long-term expected rate of return on System investments of 7% was applied to all periods of projected benefit payments to determine the Total Pension Liability.

The Fiduciary Net Position projections are based on TRA’s financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 67. As such, the Fiduciary Net Position projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing basis reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the TRA Fund will actually run out of money, the financial condition of the TRA Fund, or TRA's ability to make benefit payments in future years.

Long-Term Rate of Return

The long-term expected rate of return on pension plan investments is reviewed regularly as part of the experience study. Generally, several factors are considered in evaluating the long-term rate of return assumption including long-term historical data, estimates inherent in current market data, and an analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment management fees, and the effect of any profit-sharing arrangements, and inflation) were developed using assumptions for each major asset class, as well as estimates of variability and correlations, provided by the System's investment consultant (SBI).

These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The assumption is intended to be a long-term assumption (30 to 50 years) and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.

The experience study was completed in August 2023. The recommended change was a reduction to the investment return assumption from 7.5% to 7.0% which was first implemented in the July 1, 2023 valuation due to the passage of the HF3100 Pension Budget Omnibus Bill signed into law May 19, 2023.

Municipal Bond Rate

A municipal bond rate was not used in determining the discount rate. If it were required, the rate would be 3.94% on the Measurement Date.

Periods of Projected Benefit Payments

Projected future benefit payments for all current plan members were projected through 2123.

Assumed Asset Allocation

The target asset allocation and best estimates of geometric real rates of return for each major asset class, as provided by SBI, are summarized in *Figure 4, Target Asset Allocation and Long Term Expected Real Rate of Return*, which can be found on page 32.

Sensitivity Rate Analysis

GASB 67 requires disclosures of the sensitivity of the Net Pension Liability (NPL) to changes in the discount rate. The range is plus 1% and minus 1% of the current discount rate determined as summarized in *Figure 17, Sensitivity Rate Analysis.*

Figure 17. Sensitivity Rate Analysis

(Dollars in Thousands)

Sensitivity of Net Position Liability (NPL) to Changes in the Discount Rate			
	1% Decrease Rate 6%	Current Discount Rate 7%	1% Increase Rate 8%
NPL	$ 11,190,331	$ 6,354,321	$ 2,374,170

The complete 2024 *Actuarial Valuation Accounting Report* is available at:

https://minnesotatra.org/financial/annual-reports/

Required Supplementary Information

Schedule of Changes in the Employers' Net Pension Liability *(continued on next page)*

For the Ten Fiscal Years Ended June 30

(Dollars in Thousands)

	2024	2023	2022
Total Pension Liability			
Service cost	$ 682,786	$ 627,177	$ 596,232
Interest	2,379,150	2,282,503	2,223,274
Benefit term changes	56,762	615,463	—
Differences between expected and actual experience *	307,636	(90,669)	33,875
Assumptions changes	(909,324)	—	—
Benefit payments, including member refunds	(2,080,937)	(2,027,562)	(1,987,622)
Net change in Total Pension Liability	$ 436,073	$ 1,406,912	$ 865,759
Total Pension Liability – beginning	$ 35,010,727	$ 33,603,815	$ 32,738,056
Total Pension Liability – ending (a)	$ 35,446,800	$ 35,010,727	$ 33,603,815
Employer contributions	$ 544,667	$ 508,764	$ 482,679
Non-employer contributions-Direct Aid (State/City/District)	211,754	35,587	35,590
Employee contributions	480,136	442,448	428,993
Net investment income	3,199,055	2,213,897	(1,710,746)
Benefit payments, including member refunds	(2,080,937)	(2,027,562)	(1,987,622)
Administrative expenses	(17,502)	(16,534)	(15,666)
Other	803	1,559	1,359
Net Change in Plan Fiduciary Net Position	$ 2,337,976	$ 1,158,159	$ (2,765,413)
Plan Fiduciary Net Position – beginning	$ 26,754,503	$ 25,596,344	$ 28,361,757
Plan Fiduciary Net Position - ending (b)	$ 29,092,479	$ 26,754,503	$ 25,596,344
Net Pension Liability - ending (a)-(b)	$ 6,354,321	$ 8,256,224	$ 8,007,471
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	82.07%	76.42%	76.17%
Covered Payroll	$ 6,094,735	$ 5,735,250	$ 5,573,701
Employers' Net Pension Liability as a percentage of covered payroll	104.26%	143.96%	143.67%

Schedule of Changes in the Employers' Net Pension Liability *(concluded)*

For the Ten Fiscal Years Ended June 30

(Dollars in Thousands)

2021	2020	2019	2018	2017	2016	2015
$ 513,165	$ 489,790	$ 476,708	$ 1,056,681	$ 1,267,304	$ 438,938	$ 399,228
2,188,186	2,123,261	2,079,081	2,064,148	1,975,771	2,062,775	2,019,707
—	—	—	(3,681,114)	—	—	—
(65,710)	177,794	(70,899)	(17,461)	(167,572)	(798)	7,113
1,919,160	6,673	—	(10,167,248)	(3,355,602)	15,871,845	576,075
(1,949,875)	(1,914,465)	(1,877,836)	(1,831,887)	(1,776,814)	(1,728,023)	(1,669,607)
$ 2,604,926	$ 883,053	$ 607,054	$ (12,576,881)	$ (2,056,913)	$ 16,644,737	$ 1,332,516
$ 30,133,130	$ 29,250,077	$ 28,643,023	$ 41,219,904	$ 43,276,817	$ 26,632,080	$ 25,299,564
$ 32,738,056	$ 30,133,130	$ 29,250,077	$ 28,643,023	$ 41,219,904	$ 43,276,817	$ 26,632,080
448,829	425,223	403,300	378,728	367,791	354,961	340,208
37,840	35,587	35,587	35,587	35,587	35,587	41,587
410,162	396,679	386,669	374,550	361,175	347,256	334,826
6,684,106	939,748	1,579,099	2,160,111	2,855,218	(23,672)	887,280
(1,949,875)	(1,914,465)	(1,877,836)	(1,831,887)	(1,776,814)	(1,728,023)	(1,669,607)
(16,022)	(15,392)	(15,156)	(15,673)	(11,702)	(11,338)	(11,509)
1,721	1,560	2,306	2,581	2,404	3,569	3,550
$ 5,616,761	$ (131,060)	$ 513,969	$ 1,103,997	$ 1,833,659	$ (1,021,660)	$ (73,665)
$ 22,744,996	$ 22,876,056	$ 22,362,087	$ 21,258,090	$ 19,424,431	$ 20,446,091	$ 20,519,756
$ 28,361,757	$ 22,744,996	$ 22,876,056	$ 22,362,087	$ 21,258,090	$ 19,424,431	$ 20,446,091
$ 4,376,299	$ 7,388,134	$ 6,374,021	$ 6,280,936	$ 19,961,814	$ 23,852,386	$ 6,185,989
86.63%	75.48%	78.21%	78.07%	51.57%	44.88%	76.77%
$ 5,326,108	$ 5,166,241	$ 5,000,930	$ 4,832,917	$ 4,688,875	$ 4,515,699	$ 4,306,426
82.17%	143.01%	127.46%	129.96%	425.73%	528.21%	143.65%

* *For 2017 and prior, includes impact of date change for expected increase in COLA to 2.50%.*

Required Supplementary Information

Schedule of Employer and Non-Employer Contributions

For the Ten Fiscal Years Ended June 30

(Dollars in Thousands)

	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Actuarially determined employer contribution*	$ 724,793	$ 459,133	$ 481,192	$ 529,896	$ 490,881	$ 472,491	$ 516,157	$ 516,582	$ 459,699	$ 495,235
Actual non-employer contributions	211,754	35,587	35,590	37,840	35,587	35,587	35,587	35,587	35,587	41,587
Actual employer contributions	544,667	508,764	482,679	448,829	425,223	403,300	378,728	367,791	354,961	340,208
Total contributions	$ 756,421	$ 544,351	$ 518,269	$ 486,669	$ 460,810	$ 438,887	$ 414,315	$ 403,378	$ 390,548	$ 381,795
Annual contribution deficiency (excess)	$ (31,628)	$ (85,218)	$ (37,077)	$ 43,227	$ 30,071	$ 33,604	$ 101,842	$ 113,204	$ 69,151	$ 113,440
Covered payroll	$6,094,735	$5,735,250	$5,573,701	$5,326,108	$5,166,241	$5,000,930	$4,832,917	$4,688,875	$4,515,699	$4,306,426
Actual contributions as a percent of covered employee payroll	12.41%	9.49%	9.30%	9.14%	8.92%	8.78%	8.57%	8.60%	8.65%	8.87%

** The 2015 actuarially determined employer contribution includes the required amount for both DTRFA ($11,039) and TRA ($484,196).*

Schedule of Investment Returns

Annual money-weighted rates of return net of investment management fees and the effect of any profit-sharing agreements		
Teachers Retirement Association Plan	FY 2024	12.27%
Teachers Retirement Association Plan	FY 2023	8.87%
Teachers Retirement Association Plan	FY 2022	(6.17)%
Teachers Retirement Association Plan	FY 2021	30.26%
Teachers Retirement Association Plan	FY 2020	4.22%
Teachers Retirement Association Plan	FY 2019	7.27%
Teachers Retirement Association Plan	FY 2018	10.49%
Teachers Retirement Association Plan	FY 2017	15.18%
Teachers Retirement Association Plan	FY 2016	(0.12)%
Teachers Retirement Association Plan	FY 2015	4.48%

Investment Performance is presented net of investment management fees and the effect of any profit-sharing arrangements

Notes to Required Supplementary Information for the Fiscal Year Ended June 30, 2024

Changes of Benefit and Funding Terms

The following changes were made by the Minnesota Legislature and reflected in the valuation performed as of July 1:

2024	The 2024 Omnibus Pensions and Retirement Bill (HF 5040/SF 4643) lowered the normal retirement age for Tier II members from 66 to 65 effective July 1, 2024 and provided for a one-time State appropriation of $28.46 million to cover the cost. HF 3100, appropriated $176,166,838 to TRA, payable on October 1, 2023: • $28,735,816 for the difference between the statutory 1.1% compounded COLA payable on January 1, 2024 and a one-time 2.5% lump-sum COLA for coordinated plan members; • $2,384,222 for the difference between the statutory 1.1% compounded COLA payable on January 1, 2024 and a one-time 4.0% lump-sum COLA for basic plan members; and • $145,046,800 to pay down the unfunded actuarial accrued liability. Suspension of Earnings Limitations for Retired Teachers who Return to Work has been extended: • Temporary suspension of earnings limitations over $46,000 for retirees returning to Pre-K-12 positions earned during fiscal years 2025, 2026, and 2027. No amounts will be withheld from reemployed retiree benefits for Pre-K-12 positions and deposited into an ELSA for calendar years 2026, 2027, and 2028. This does not apply to retirees returning to Minnesota State positions.
2023	The 2023 Tax Finance and Policy Bill contained a number of changes: • Effective July 1, 2025, the normal retirement age for Tier II members will decrease from 66 to 65. • The employer contributions rate will increase from 8.75% to 9.5% on July 1, 2025. • The employee contribution rate will increase from 7.75% to 8% on July 1, 2025.
2022	Suspension of Earnings Limitations for Retired Teachers Who Return to Work: • Temporary suspension of earnings limitations over $46,000 for retirees returning to Pre-K-12 positions earned during fiscal years 2022, 2023, and 2024. No amounts will be withheld from reemployed retiree benefits for Pre-K-12 positions and deposited into an ELSA for calendar years 2023, 2024, and 2025. This does not apply to retirees returning to Minnesota State positions.
2021	None
2020	None
2019	None

2018	The 2018 Omnibus Pension Bill contained a number of changes: • The COLA was reduced from 2% each January 1 to 1%, effective January 1, 2019. • Beginning January 1, 2024, the COLA will increase 0.1% each year until reaching the ultimate rate of 1.5% in January 1, 2028. • Beginning July 1, 2024, eligibility for the first COLA changes to normal retirement age (age 65 to 66, depending on date of birth). However, members who retire under Rule of 90 and members who are at least age 62 with 30 years of service credit are exempt. • The COLA trigger provision, which would have increased the COLA to 2.5% if the funded ratio was at least 90% for two consecutive years, was eliminated. • Augmentation in the early retirement reduction factors is phased out over a five-year period beginning July 1, 2019 and ending June 30, 2024 (this reduces early retirement benefits). Members who retire and are at least age 62 with 30 years of service are exempt. • Augmentation on deferred benefits will be reduced to 0% beginning July 1, 2019. Interest payable on refunds to members was reduced from 4% to 3%, effective July 1, 2018. Interest due on payments and purchases from members, employers is reduced from 8.5% to 7.5%, effective July 1, 2018. • The employer contribution rate is increased each July 1 over the next 6 years, (7.71% in 2018, 7.92% in 2019, 8.13% in 2020, 8.34% in 2021, 8.55% in 2022, and 8.75% in 2023). In addition, the employee contribution rate will increase from 7.50% to 7.75% on July 1, 2023. The state provides funding for the higher employer contribution rate through an adjustment in the school aid formula.
2017	None
2016	None
2015	The Duluth Teachers Retirement Fund Association was merged into TRA on June 30, 2015. This resulted in an additional state-provided contribution stream of $14.377 million until TRA becomes fully funded.

Changes in Actuarial Assumption

7/1/2024 Valuation	• Mortality tables were updated for active employees, retirees, disabled retirees, and contingent beneficiaries to recently published tables derived from public plan data known as the Pub2010 family. • Retirement rates were increased for some of the Tier II early retirement ages and some of the unreduced retirement rates were modified for both tiers to better align with actual experience. • Probability that new female retirees elect either the Straight Life Annuity or 100% Joint & Survivor Annuity were refined to reflect the actual experience. • Termination rates were reduced in the first 10 years of employment and slightly increased in years 16 to 25 to better match the observed experience. • Disability rates were decreased beyond age 45 by 15% to reflect the continued lower than expected observations.

7/1/2023 Valuation	• The investment return assumption was changed from 7.5% to 7%. This does not affect the GASB valuation which was already using the 7% assumption.
7/1/2021 Valuation	For GASB valuation only: • The investment return assumption was changed from 7.5% to 7%.
7/1/2020 Valuation	• Assumed termination rates were changed to more closely reflect actual experience. • The Pre-retirement mortality assumption was changed to the RP-2014 white collar employee table, male rates set back 5 years and female rates set back 7 years. Generational projection uses the MP-2015 scale. • Assumed form of annuity election proportions were changed to more closely reflect actual experience for female retirees.
7/1/2018 Valuation	• The investment return assumption was changed from 8.5% to 7.5%. • The price inflation assumption was lowered from 3% to 2.5%. • The payroll growth assumption was lowered from 3.5% to 3%. • The wage inflation assumption (above price inflation) was reduced from 0.75% to 0.35% for the next 10 years, and 0.75% thereafter. • The total salary increase assumption was adjusted by the wage inflation change. • The amortization date for the funding of the Unfunded Actuarial Accrued Liability (UAAL) was reset to June 30, 2048 (30 years). • A mechanism in the law that provided the TRA Board with some authority to set contribution rates was eliminated. Note: Most of these changes were made previously for GASB purposes in the 2017 GASB valuation.
7/1/2017 Valuation	• The Cost of Living Adjustment was assumed to increase from 2% annually to 2.5% annually on July 1, 2045. • Adjustments were made to the combined service annuity loads. The active load was reduced from 1.4% to 0%, the vested inactive load increased from 4% to 7% and the non-vested inactive load increased from 4% to 9%. For GASB valuation: ◦ The investment return assumption was changed from 8% to 7.5%. ◦ The COLA was not assumed to increase to 2.5%, but remain at 2% for all future years. ◦ The price inflation assumption was lowered from 2.75% to 2.5%. ◦ The payroll growth assumption was lowered from 3.5% to 3%. ◦ The general wage growth assumption was lowered from 3.5% to 2.85% for 10 years followed by 3.25%, thereafter. ◦ The salary increase assumption was adjusted to reflect the changes in the general wage growth assumption.

7/1/2016 Valuation		• The Cost of Living Adjustment was not assumed to increase for funding or GASB calculation (it remained at 2% for all future years). • The price inflation assumption was lowered from 3% to 2.75%. • The general wage growth and payroll growth assumptions were lowered from 3.75% to 3.5%. • Minor changes as some durations for the merit scale of the salary increase assumption. • The Pre-retirement mortality assumption was changed to the RP-2014 white collar employee table, male rates set back 6 years and female rates set back 5 years. Generational projection uses the MP-2015 scale. • The post-retirement mortality assumption was changed to the RP-2014 white collar annuitant table, male rates set back 3 years and female rates set back 3 years, with further adjustments of the rates. Generational projection uses the MP-2015 scale. • The post-disability mortality assumption was changed to the RP-2014 disabled retiree mortality table, without adjustment. • Separate retirement assumptions for members hired before or after July 1, 1989, were created to better reflect each group's behavior in light of different requirement for retirement eligibility. • Assumed termination rates were changed to be based solely on years of service in order to better fit the observed experience. • A minor adjustment and simplification of the assumption regarding the election of optional form of annuity payment at retirement were made.
7/1/2015 Valuation		• The Cost-of-Living (COLA) adjustment was assumed to increase from 2% annually to 2.5% annually on July 1, 2037. For GASB valuation: ◦ The COLA was not assumed to increase to 2.5% but remain at 2% for all future years. ◦ The investment return assumption was changed from 8.25% to 8%.

Method and Assumptions Used in Calculations of Actuarially Determined Contributions

TRA is funded with contributions from members and their employers. The actuarially determined contributions in the *Schedule of Employer and Non-Employer Contributions* on page 50 are calculated as of the beginning of the fiscal year in which contributions were reported.

The following methods and assumptions were used to calculate the actuarially determined employer contributions reported for the most recent Measurement Date, June 30, 2024 (based on the July 1, 2023 valuation).

Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll, closed
Remaining amortization period	25 years
Asset valuation method	5-year moving average
Inflation	2.5%
Wage growth rate	2.85% before July 1, 2028 and 3.25% after June 30, 2028
Salary increase, including inflation	2.85% to 8.85% before July 1, 2028 and 3.25% to 9.25% after June 30, 2028
Long-term rate of return, net of investment expense including price inflation	7.0%
Cost of living adjustment	1% for January 2019 through January 2023, then increasing by 0.1% each year up to 1.5% annually

Please see the information presented earlier for detailed information on the benefit changes and assumption changes that may have impacted the Actuarially Determined Contributions shown in the *Schedule of Employer and Non-Employer Contributions* on page 50.

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Supporting Schedules
to Financial Section

Teachers Retirement Association of Minnesota
A Pension Trust Fund of the State of Minnesota

Schedule of Administrative Expenses

For the Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

Personnel Services		
Salaries	$	8,369
Employer contributions to Teachers Retirement Association		739
Employer contributions to Social Security		600
Insurance contributions		1,706
Employee training		101
Workers' compensation		39
Total Personnel Services	**$**	**11,554**
Communication		
Duplicating and printing expenses	$	76
Postage		351
Telephone		45
Total Communication Expenses	**$**	**472**
Office Building Maintenance		
Lease of office and storage space	$	116
Building operating expenses		626
Rental of office machines/furnishings		43
Repairs and maintenance		178
Building depreciation		266
Bond interest expense		16
Total Office Building Maintenance	**$**	**1,245**
Professional Services		
Actuarial services	$	150
Audit fees		208
Legal fees		35
Management consultant services		47
Medical services		0
Total Professional Services	**$**	**440**
Other Operating Expenses		
Computer and system services	$	1,311
Depreciation of office equipment		26
Dues and subscriptions		3
Insurance expense		10
Miscellaneous administrative expenses		82
Amortization		2,012
State indirect costs		63
Office equipment and supplies		208
Travel		76
Total Other Operating Expenses	$	3,791
Total Administrative Expenses	**$**	**17,502**

Schedule of Professional Consultant Fees

For the Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

Actuarial		
CavMac Actuarial Consulting Services	$	150
Total Actuarial Fees	**$**	**150**
Audit		
Legislative auditor	$	136
Clifton Larson Allen LLP		72
Total Audit Fees	**$**	**208**
Legal		
Attorney General	$	15
Ice Miller LLP		10
Minnesota Management and Budget		10
Total Legal Fees	**$**	**35**
Computer Support Services		
Paragon Development Systems	$	13
Total Computer Support Service Fees	**$**	**13**
Management Consulting		
Pension Benefit Information LLC	$	47
Total Management Consulting Fees	**$**	**47**
Total Consultant Fees	**$**	**453**

Schedule of Investment Expenses

For the Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

External Managers	
Domestic active equity pool managers	$ 4,435
Global equity pool managers	1,288
Domestic bond pool managers	1,483
Semi-passive equity pool managers	1,066
Passive equity pool managers	332
Treasury protection pool managers	1,140
Return seeking fixed income pool managers	3,841
International equity pool managers	10,932
Ladder Portfolio pool managers	219
Private markets pool managers	80,323
Total External Manager Fees	**$ 105,059**
Other Investment Expenses	
State Board of Investment	$ 2,878
Aon Hewitt Investment Consulting, Inc.	176
Pension Consulting	156
Broadridge (QED)	111
Albourne	455
Total Other Investment Expenses	**$ 3,776**
Total Investment Pool Managers Expenses	**$ 108,835**

** TRA's financial statements have historically reported investment expenses for management fees for public markets investments. In prior years, private markets investment fees were accounted for in all investment income figures and asset values. For fiscal year 2024, TRA's Statement of Changes in Fiduciary Net Position lists expenses for investment management fees for all asset class categories, including private markets. Investment returns throughout the ACFR are net of all public and private markets investment management fees, including any profit-sharing arrangements. This change has no effect on the net investment income or the net position restricted for pensions.*

INVESTMENTS

Minnesota State Board of Investment
60 Empire Drive, Suite 100
St. Paul, MN 55103
Phone: (651) 296-3328
Fax: (651) 296-9572
Email: minn.sbi@state.mn.us
Website: https://msbi.us/
An Equal Opportunity Employer

INVESTMENT AUTHORITY

Minnesota Statutes provide that the Minnesota State Board of Investment (SBI) is responsible for investing the assets of the three statewide public pension plans: the Minnesota State Retirement System (MSRS), the Minnesota Public Employees Retirement Association (PERA), and the Minnesota Teachers Retirement Association (TRA) (See *Minnesota Statutes*, Chapters 11A and 356A). Each of MSRS, PERA, TRA, and the SBI are separate and independent entities with independent governance structures. Under Article 11, Section 8 of the Minnesota Constitution, the governing body of the SBI includes Minnesota's Governor, Auditor, Secretary of State, and Attorney General. Additionally, a 17-member Investment Advisory Council (IAC), established under Minnesota Statute, advises the SBI and its staff on investment-related matters. TRA's executive director serves as a member of the IAC.

INVESTMENT POLICY

Minnesota law requires the SBI to operate within standard investment practices of the prudent person rule. The SBI is required to "exercise that degree of judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived therefrom." (See *Minnesota Statutes*, section 11A.09 and 356A.04). The SBI is authorized to own government obligations, corporate obligations, various short-term obligations, equity, real estate, and resource investments, whether publicly or privately traded, subject to specific constraints. (See *Minnesota Statutes*, section 11A.24). The SBI must manage the pension fund assets for the exclusive benefit of the plan participants and beneficiaries. (See *Minnesota Statutes*, section 356A.05).

INVESTMENT OBJECTIVES AND PERFORMANCE

The SBI invests TRA's pension contributions from employees and employers through a pooled vehicle known as the Combined Funds. The Combined Funds include the assets of the defined benefit plans administered by MSRS, TRA, and PERA. TRA's ownership interest in the Combined Funds is represented by a participation interest in the pooled vehicle.

Because the assets of the Combined Funds are intended to accumulate for extended periods of time, typically spanning decades, the SBI is able to take advantage of the long-term investment return opportunities offered by a diversified investment approach that includes equities and alternative assets. This long-term, institutional investment approach allows the SBI to ensure that sufficient funds are available to make all required distributions to TRA plan participants and beneficiaries and to meet the actuarial assumed rate of return target over appropriate periods of time. The Minnesota legislature is responsible for setting the actuarial assumed rate of return for the three statewide retirement systems, including TRA. The current assumption, which was most recently adjusted by the legislature in 2023, is 7%.

Long-Term Objectives. The long-term objectives of the Combined Funds are to: 1) provide returns that are 3-5 percentage points greater than inflation over the latest 20-year period; and 2) outperform a composite market index weighted in a manner that reflects the actual asset mix of the Combined Funds over the latest 10-year period.

Consistent with these objectives, the SBI maintains a long-term strategic asset allocation policy target for the Combined Funds as follows:

- Public Equity 50%
- Total Fixed Income 25%
- Private Markets 25%

As of June 30, 2024, the SBI met or exceeded each of the Combined Funds' long-term investment objectives: 1) the 20-year annualized return was 8.3%, which exceeded inflation, as measured by CPI, by 5.8 percentage points and 2) the 10-year return was 8.3%, which exceeded the composite index by 0.2%.

Most Recent Fiscal Year Performance and Peer Comparisons. For the one-year period ending June 30, 2024, the Combined Funds returned 12.3%, placing it among the top performing investment funds in the country. Comparing the Combined Funds' investment returns against other public pension plans with over $20 billion in assets within the Trust Universe Comparison Service, the Combined Funds ranked in the: top 17th percentile for the one-year period; top 33rd percentile for the 3-year period; top 20th percentile for the 5-year period; top 15th percentile for the 10-year-period; and the top 12th percentile over the past 20 years.

INVESTMENT PRESENTATION

Investment returns were prepared using a time-weighted rate of return methodology based on fair market value. Performance is presented net of investment management fees and the effect of any profit-sharing arrangements.

On behalf of all of us at the SBI, thank you to the TRA plan participants and beneficiaries - it's a privilege to play a role in contributing to your retirement security. We are grateful for your continued trust and support.

Respectfully submitted,

Jill E. Schurtz
Executive Director and Chief Investment Officer
Minnesota State Board of Investment
December 5, 2024

Investment Summary

Prepared by TRA management with data obtained from the State Board of Investment's Fiscal Year 2024 Quarterly Investment Reports

The SBI Board consists of four-member including Governor Tim Walz (Chair), Attorney General Keith Ellison, Secretary of State Steve Simon, and State Auditor Julie Blaha.

The Legislature has established a 17-member Investment Advisory Council (IAC) to advise SBI and its staff on investment-related matters.

The mission statement of the Investment Advisory Council is:

- The IAC fulfills its statutory duty to the SBI by providing advice and independent due diligence review of the investment policy and implementation recommendations that guide SBI's investment of assets.
- SBI appoints ten members from the public experienced in finance and investment. These members traditionally have come from the Minneapolis and Saint Paul investment community.
- The Commissioner of Minnesota Management and Budget (MMB) and the Executive Directors of TRA, Minnesota State Retirement System (MSRS), and Public Employees Retirement Association (PERA) are permanent members of the IAC.
- Two active employee representatives and one retiree representative are appointed to the IAC by the Governor.

Investment Advisory Council (December 9, 2024)

Public Members:

Gary Martin, Chair
Chief Investment Officer
Macalester College

Kim Faust, Vice Chair
Vice President and Treasurer
Fairview Health Services

Amy Jensen
Chief Investment Officer
Lansing Group, LLC

Dan McConnell
President
Minnesota State Building and Construction Trade Council

Nancy Orr
Chief Investment Officer
Vice President-Investments
Charles Stewart Mott Foundation

Carol Peterfeso
Managing Director of Investments
Bush Foundation

Dennis Santos
Senior Vice President & Chief Investment Officer
Okabena Investment Services

Sunil Swami
Chief Investment Officer
Alerus

Jen Wilson
Senior Managing Director
Private Equity
Thrivent

Shawn Wischmeier
Chief Investment Officer
Margaret A. Cargill Philanthropies

Employee & Retirement Representatives:

Denise Anderson
Governor's Appointee
Active Public Employee Representative

Ify Onyiah
Governor's Appointee
Active Public Employee Representative

Peggy Ingison
Governor's Appointee
Retiree Member Representative

Permanent Members:

Erin Campbell
Commissioner
Minnesota Management & Budget

Erin Leonard
Executive Director
Minnesota State Retirement System

Doug Anderson
Executive Director
Public Employee Retirement Association

Tim Maurer
Interim Executive Director
Teachers Retirement Association

Consultants

Aon Hewitt Investment Consulting, Inc., of Chicago is general consultant to the SBI. Albourne Partners of Norwalk, CT is the SBI consultant for private markets. Investment performance methodology is reported in compliance with the mandatory requirements of the Chartered Financial Analyst (CFA) Institute. All investments made by SBI are governed by the prudent person rule and other standards codified in Minnesota Statutes, Chapters 11A and 356A.

Combined Retirement Funds

Investment Objectives

All TRA assets are accounted for within the Combined Funds managed by SBI. The Combined Funds consist not only of the TRA assets, but also the assets of the Public Employees Retirement Association (PERA) and the Minnesota State Retirement System (MSRS). SBI has one primary responsibility with respect to its management of the Combined Funds: to ensure that sufficient funds are available to finance pension benefits at the time of retirement. All assets in the Combined Funds, including TRA, are managed externally by outside money management firms retained by contract.

The Combined Funds include the pension contributions of most Minnesota public employees, including TRA members, during their working years. Employee and employer contribution rates are specified in state law as a percentage of an employee's salary. The rates are set so that contributions plus expected investment earnings cover the projected cost of promised pension benefits. In order to meet these projected pension costs, the Combined Funds need to generate annual investment returns of at least 7%, as specified in Minnesota statute.

While an active member is working, employee and employer contributions are placed into the TRA Fund. The prefunding of future pension benefits provides SBI with a long investment time horizon to take advantage of long run return opportunities offered by equities and other investments, in order to meet its actuarial return target.

SBI measures the performance of the Combined Funds relative to a composite of market indices that is weighted in a manner that reflects their long-term asset allocation policy. The Combined Funds are expected to match or exceed the composite index over a ten-year period. The Combined Funds are also expected to generate returns 3 to 5 percentage points greater than inflation over the latest 20-year period. Investment returns are prepared using a time-weighted rate of return methodology, based upon market value. Performance is measured net of investment management fees and the effect of any profit-sharing arrangements to ensure that SBI's focus is on the Combined Funds' true net return.

Asset Allocation

The allocation of assets among equities, fixed income (bonds) and alternative investments can have a dramatic impact on investment results. In fact, asset allocation decisions overwhelm the impact of individual security selection within a total portfolio. Consequently, SBI focuses considerable attention on the selection of an appropriate long-term asset allocation policy for the Combined Funds.

Rate of Return Results

The Combined Funds produced a total rate of return of 12.3% for fiscal year 2024. Over the last five years, the Combined Funds generated an annualized return of 9.2%.

As stated earlier, the Combined Funds are expected to exceed the return of a composite of market indices over a ten-year period. Performance relative to this standard measured two effects:

- The ability of the investment managers selected by SBI, in aggregate, to add value to the returns available from the broad capital markets.
- The impact of SBI's rebalancing activity. (SBI rebalances the total fund when market movements take the stock or bond segments

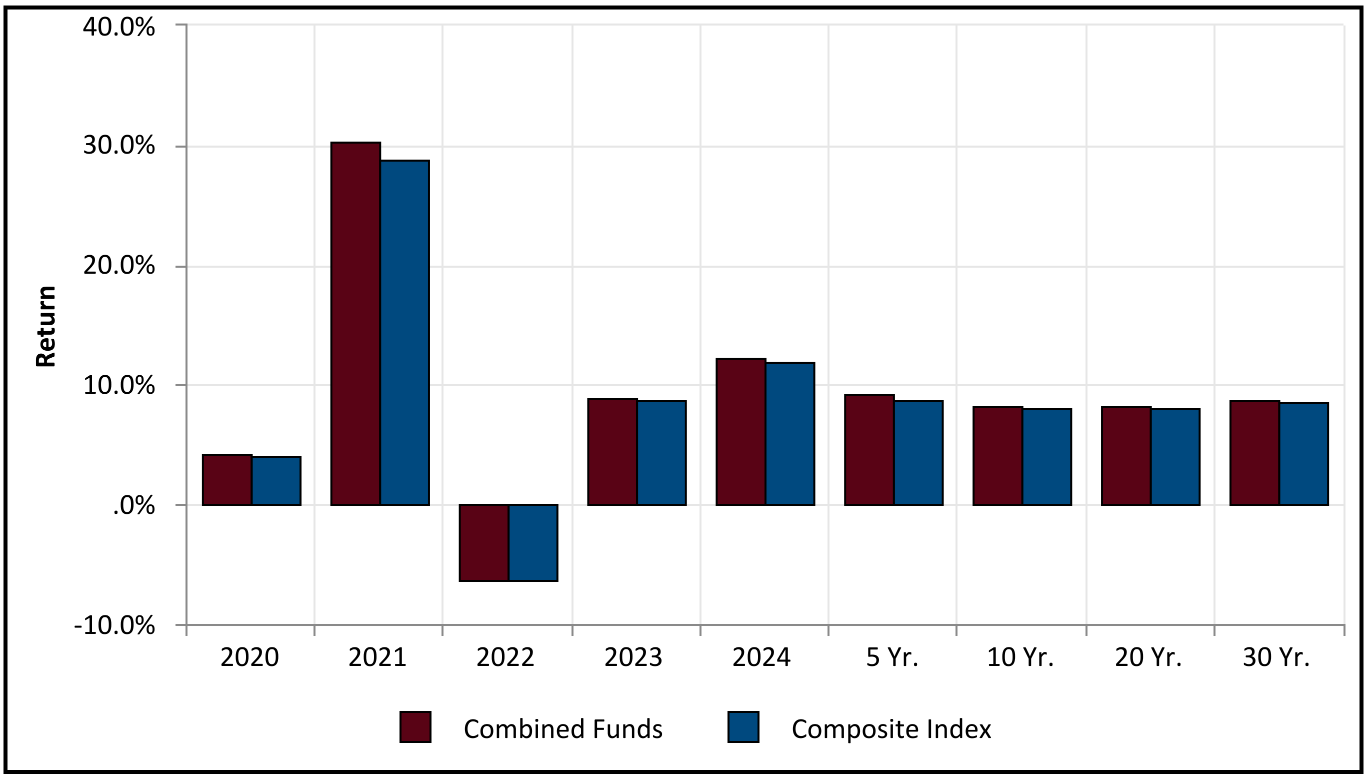
measurably above or below their long-term asset allocation targets. The policy imposes a low risk, buy low sell high discipline among asset classes on a total fund basis.)

Combined Funds Performance vs. Composite Index

The investment return for the Combined Funds for the fiscal year ended June 30, 2024 was 12.3%. For a majority of time periods shown below the Combined Fund returns exceeded the composite index investment performance.

Combined Funds - Investment Performance

Combined Funds Performance vs. Composite Index (Past Five Fiscal Years and Longer-Term)
Fiscal Year Ended June 30, 2024



	2020	2021	2022	2023	2024	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds	4.2%	30.3%	(6.4)%	8.9%	12.3%	9.2%	8.3%	8.3%	8.8%
Composite Index	4.0%	28.8%	(6.3)%	8.7%	11.9%	8.8%	8.0%	8.1%	8.5%
Excess	0.2%	1.5%	(0.1)%	0.2%	0.5%	0.4%	0.2%	0.3%	0.3%

Investment Performance is presented net of investment management fees and the effect of any profit-sharing arrangements. The Combined Funds' performance is evaluated relative to a composite of public market index and private market investment returns. The composite performance is calculated by multiplying the beginning of month Composite weights and the monthly returns of the asset class benchmarks.

Combined Funds - Performance of Asset Pools (Net of Fees)

June 30, 2024

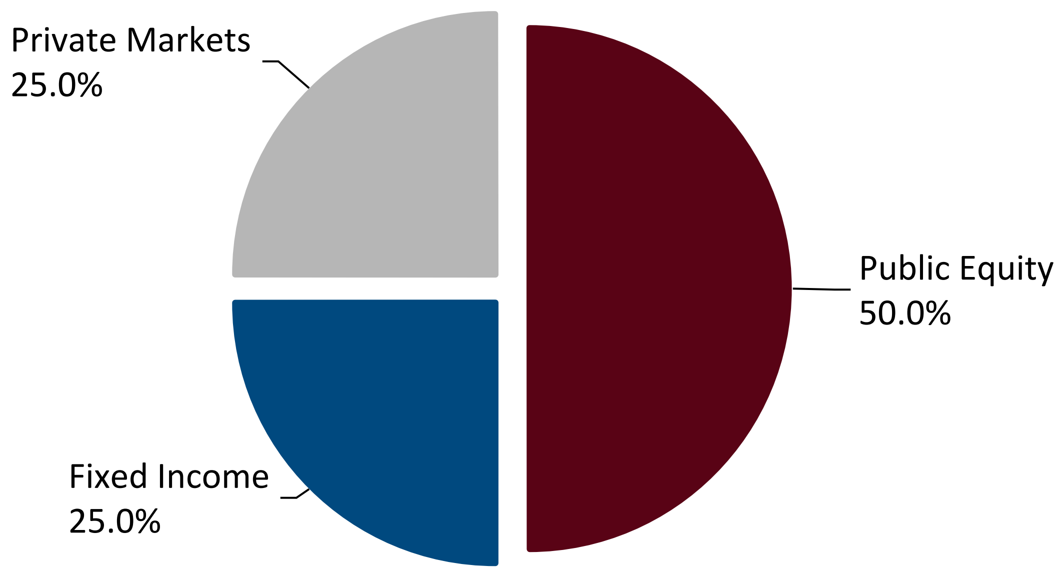
Rates of Return (Annualized)

	1 Year %	3 Year %	5 Year %	10 Year %	20 Year %	30 Year %
Public Equity	19.8%	5.9%	11.7%	9.8%	9.0%	9.5%
Public Equity Benchmark	19.3%	5.6%	11.3%			
Excess	0.5%	0.3%	0.4%			
Domestic Equity	23.5%	8.0%	14.2%	12.1%	10.1%	10.4%
Domestic Equity Benchmark	23.1%	8.1%	14.1%	12.1%	10.2%	10.5%
Excess	0.4%	0.0%	0.1%	0.0%	0.0%	(0.1)%
International Equity	12.8%	2.0%	6.8%	4.7%	6.3%	5.9%
International Equity Benchmark	11.6%	0.5%	5.5%	3.8%	5.8%	5.1%
Excess	1.2%	1.6%	1.3%	0.8%	0.6%	0.8%
Global Equity	12.0%	(1.8)%				
MSCI AC World Index (net)	19.4%	5.4%				
Excess	(7.4)%	(7.2)%				
Total Fixed Income	2.7%	(2.8)%	0.5%	2.1%	3.7%	5.0%
Total Fixed Income Benchmark	1.5%	(3.2)%	(0.1)%	1.5%	3.2%	4.6%
Excess	1.2%	0.5%	0.6%	0.5%	0.4%	0.4%
Core/Core Plus	3.6%	(2.8)%	0.5%	1.9%	3.6%	4.9%
Core Bonds Benchmark	2.6%	(3.0)%	(0.2)%	1.3%	3.1%	4.5%
Excess	1.0%	0.2%	0.7%	0.6%	0.5%	0.4%
Return Seeking Fixed Income	7.1%	(0.4)%				
Bloomberg U.S. Aggregate	2.6%	(3.0)%				
Excess	4.5%	2.6%				
Treasury Protection	(1.6)%	(6.6)%	(2.3)%			
Bloomberg Treasury 5+ Year	(1.7)%	(6.6)%	(2.3)%			
Excess	0.2%	0.0%	0.0%			
Laddered Bond + Cash	5.5%	3.0%	2.1%	1.6%	1.8%	3.1%
ICE BofA US 3-Month Treasury	5.4%	3.0%	2.2%	1.5%	1.6%	2.5%
Excess	0.1%	(0.1)%	0.0%	0.1%	0.2%	0.6%
Total Private Markets	7.7%	11.0%	12.9%	11.6%	13.6%	13.5%
Private Equity	9.8%	10.8%	16.1%	15.2%	15.7%	15.5%
Private Credit	9.8%	13.2%	11.5%	12.3%	12.6%	
Resources	4.4%	12.8%	4.6%	1.3%	12.6%	12.8%
Real Estate	(6.7)%	9.0%	8.9%	10.1%	8.7%	9.4%

Investment performance is prepared using a time-weighted return methodology, based on fair value, net of investment management fees and the effect of any profit-sharing arrangements

Combined Funds
Portfolio Distribution: Strategic Asset Policy Target Allocation*

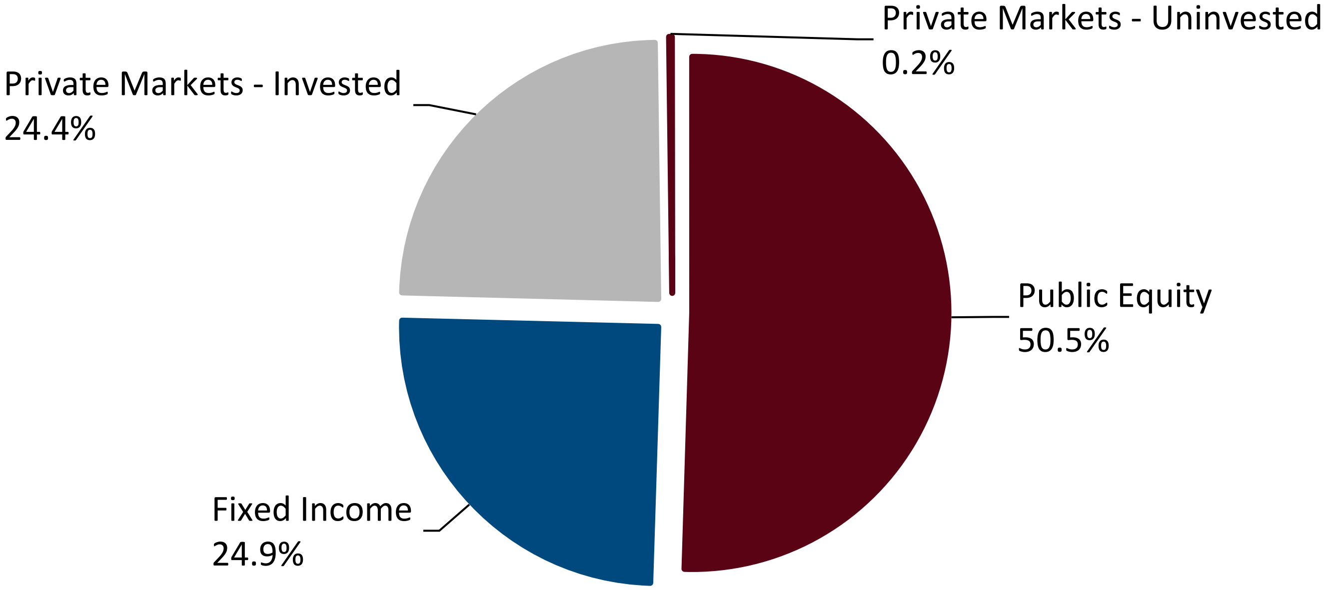
As of June 30, 2024



**See note on page 31.*

Combined Funds
Portfolio Distribution: Actual Asset Mix

As of June 30, 2024



The market value of the TRA Fund investment portfolio is approximately $29.1 billion.

Teachers Retirement Fund
List of Largest Assets Held
June 30, 2024

By Fair Value

(Dollars in Millions)

Top Ten Equity Holdings

Security	$ Fair Value	% of Portfolio
MICROSOFT CORP	$625.5	2.15%
NVIDIA CORP	559.4	1.92%
APPLE INC	553.4	1.90%
MSBI SIF	467.3	1.61%
BLACKROCK LONG TERM PRIVATE CA	465.7	1.60%
AMAZON.COM INC	338.2	1.16%
META PLATFORMS INC CLASS A	208.9	0.72%
ALPHABET INC CL A	200.1	0.69%
ALPHABET INC CL C	164.6	0.57%
BROADCOM INC	138.4	0.48%

Top Ten Bond Holdings

Security	% Coupon	$ Fair Value	% of Portfolio	Maturity Date
US Treasury N/B	4.50%	$119.4	0.41%	11/15/2033
US Treasury N/B	3.88%	89.7	0.31%	8/15/2033
US Treasury N/B	4.00%	85.3	0.29%	2/28/2030
US Treasury N/B	3.50%	79.4	0.27%	1/31/2030
US Treasury N/B	4.00%	79.1	0.27%	7/31/2030
US Treasury N/B	4.38%	78.3	0.27%	11/30/2030
US Treasury N/B	3.75%	77.2	0.27%	5/31/2030
US Treasury N/B	3.63%	64.6	0.22%	2/15/2053
US Treasury N/B	4.75%	60.0	0.21%	11/15/2053
US Treasury N/B	3.13%	55.0	0.19%	5/15/2048

TRA's assets are commingled in various pooled investment accounts administered by SBI. TRA does not own specific values of the underlying assets. The percentages and fair value shown are those attributable to the TRA Fund based on TRA's participation in SBI's Combined Funds. Information on investment activity, a listing of specific investments owned by the pooled accounts and a schedule of fees and commissions can be obtained from SBI.

Schedule of Investment Management Fees *(continued on next page)*

For the Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

Domestic Active Equity Pool Managers		
Zevenbergen Capital	$	293
Winslow Capital		203
Barrow, Hanley		290
LSV Asset		257
Sands Capital		209
Peregrine Capital		391
Goldman Equity		302
Hotchkis and Wiley		579
Martingale		292
Wellington Management Company, LLP		378
Arrowmark Asset Management, LLC		397
Hood River Capital Management, LLC		460
Rice Hall James & Associates, LLC		384
Total Domestic Activity Equity Pool Managers	$	4,435
Semi Passive Equity Pool Managers		
Blackrock	$	536
JP Morgan		530
Total Semi Passive Equity Pool Managers	$	1,066
Passive Domestic Equity Pool Managers		
Blackrock	$	5
Total Passive Domestic Equity Pool Managers	$	5
Large Cap Passive Domestic Equity Pool Managers		
Blackrock Passive	$	326
Total Passive Domestic Equity Pool Managers	$	326
Small Cap Passive Domestic Equity Pool Managers		
Blackrock Passive	$	1
Total Passive Domestic Equity Pool Managers	$	1
Domestic Bonds Pool Managers		
Blackrock Financial Management	$	202
Dodge & Cox		334
Goldman		304
Neuberger		302
Western Asset Management		341
Total Domestic Bonds Pool Managers		1,483
Page Subtotal		7,316

Schedule of Investment Management Fees *(continued on next page)*

For the Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

Subtotal from Previous Page	$	7,316
Return Seeking Fixed Income Pool Managers		
Columbia	$	416
PIMCO		632
Blackrock		621
Ashmore Emerging Market		444
KKR High Yield		287
Oaktree High Yield		350
PGIM FI Mac		361
Payden & Rygel Mav		340
TCW		388
Ashmore		2
Total Return Seeking Fixed Income Pool Managers	$	3,841
International Equity Pool Managers		
Acadian Asset	$	601
State Street Emerging		150
AQR Capital Mgmt.		28
Fidelity Investments		420
JP Morgan Fleming		417
Earnest Partners, LLC		356
Macquaries/Delaware Investments		629
Martin Currie, Inc.		620
Marathon Asset		418
McKinley Capital Management		—
Morgan Stanley Dean		913
Neuberger Berman Investment		583
Pzena Investment Management		1,183
Rock Creek		828
Columbia Management		445
State Street		216
Record Currency		2,629
Earnst Partners, LLC		488
Ashmore		8
Total International Equity Pool Managers	$	10,932
Page Subtotal	$	22,089

Schedule of Investment Management Fees *(concluded)*
For the Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

Subtotal from Previous Page	$	22,089
Global Equity Pool Managers		
Martin Currie, Inc.	$	327
Ariel		588
Baillie Gifford		373
Total Global Equity Pool Managers	$	1,288
Treasury Protection Pool Managers		
Blackrock	$	396
Goldman Sachs		370
Neuberger Berman		374
Total Treasury Protection Pool Managers	$	1,140
Laddered Portfolio Pool Managers		
Goldman	$	111
Neuberger		108
Total Laddered Equity Pool Managers	$	219
Private Pool Managers		
Private Credit	$	7,937
Private Equity		53,285
Real Assets		6,734
Real Estate		12,367
Total Private Pool Managers	$	80,323
Total Investment Management Fees	$	105,059

Note: *The investment portfolio of TRA had a fair value of approximately $29.1 billion as of June 30, 2024.*
The effective investment management expense ratio for TRA's assets are: public markets program, approximately 0.12% (12 basis points); private markets program, approximately 1.15%; and the effective total expense ratio overall, approximately 0.38% (38 basis points), based upon average quarterly values for Fiscal Year 2024.

Summary of Investments

As of June 30, 2024

(Dollars in Thousands)

	Cost Value	Fair Value	% of Investments at Fair Value
Fixed Income Investments			
Treasuries Pool	$ 3,135,895	$ 2,739,569	9.42%
Bond Pool	1,747,479	1,641,096	5.65%
Return Seeking Fixed Income	1,440,653	1,415,218	4.87%
Total Fixed Income Investments	$ 6,324,027	$ 5,795,883	19.94%
Private Markets			
Alternative Investment Pool	$ 6,236,129	$ 7,058,107	24.28%
Total Private Markets	$ 6,236,129	$ 7,058,107	24.28%
Equity Investments			
US Stock Index Pool	$ 5,071,055	$ 7,563,717	26.02%
US Stock Actively Managed Pool	2,233,466	2,163,762	7.44%
Broad International Stock Pool	3,886,948	4,586,363	15.78%
Global Equity Pool	292,432	328,307	1.13%
Total Equity Investments	$ 11,483,901	$ 14,642,149	50.37%
Short Term Cash Investments			
Money Market	$ 489,056	$ 490,795	1.69%
CD Repo Pool	62,081	62,355	0.21%
Short Duration Laddered Bonds	986,153	1,021,792	3.51%
Total Short Term Investments	$ 1,537,290	$ 1,574,942	5.41%
Total Investments	$ 25,581,347	$ 29,071,081	100%

General Information Regarding Investment of Funds

TRA's investments are made by SBI and external managers as prescribed by law, and are made only in such securities as are duly authorized legal investments in accordance with Minnesota Statutes, Section 11A.24. State Street Bank and Trust of Boston acts as custodian of securities for the Combined Funds. Principal Bank of Minneapolis, Minnesota, is the current custodian of short term investments of SBI. Examination and verification of securities held by the custodians is performed periodically by the Minnesota Office of the Legislative Auditor. Investment returns are prepared using a time-weighted rate of return methodology, based upon fair values, net of investment management fees, and the effect of any profit-sharing arrangements.

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ACTUARIAL

CavMac
Actuarial Consulting Services

December 3, 2024

Board of Trustees
Teachers Retirement Association of Minnesota
60 Empire Drive, Suite 400
St. Paul, MN 55103

Dear Board Members:

At your request, we have prepared an actuarial funding valuation of the Teachers Retirement Association of Minnesota (TRA or System) as of July 1, 2024 for the plan year ending June 30, 2025. Such valuations, which analyze the funding progress of the System, are required to be performed annually under state law. To the best of our knowledge and belief, the funding valuation was performed in accordance with the requirements of Minnesota Statutes, Section 356.215, and the requirements of the Standards for Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement (LCPR).

Since the prior valuation, there have been several changes that affect the current valuation results including:

- The 2024 Omnibus Pensions and Retirement Bill (HF 5040/SF 4643) lowered the normal retirement age for Tier 2 members from 66 to 65 effective July 1, 2024 (previously July 1, 2025) and provided for a one-time State appropriation of $28.46 million to cover the cost. However, the State appropriation was not received until August, 2024, so this change increased the unfunded actuarial accrued liability as of July 1, 2024. There will be an offsetting decrease next year due to the appropriations.
- HF 3100, appropriated $176,166,838 to TRA, payable on October 1, 2023 to provide for a one-time lump-sum COLA for retired members as well as pay down the unfunded actuarial accrued liability
  - $28,735,816 for the difference between the statutory 1.1% compounded COLA payable on January 1, 2024 and a one-time 2.5% lump-sum COLA for coordinated plan members;
  - $2,384,222 for the difference between the statutory 1.1% compounded COLA payable on January 1, 2024 and a one-time 4.0% lump-sum COLA for basic plan members; and
  - $145,046,800 to pay down the unfunded actuarial accrued liability.
- The provision in Tax Finance & Policy bill, HF 1938, to extend the amortization period from 2048 to 2053 effective July 1, 2025 was rescinded.
- The demographic assumption changes based on our quadrennial experience study report, dated August 2, 2023, have been approved by the LCPR.

These changes had an impact on the benefit structure and contribution rates as well as the actuarial assumptions used in the valuation.

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As described in the funding valuation report, the results of the valuation indicate that the System is 79.90% funded and the current statutory contribution rates are deficient by 1.25% of payroll to meet the target of full funding by 2048. The contribution deficiency is determined using the actuarial value of assets, which is less than the market value of assets. If the net deferred investment gain is recognized, i.e., the fair value of assets is used, the contribution deficiency decreases to 0.49% of payroll. If the employee and employer contribution rates increase as scheduled, the contribution rate deficiency decreases from 1.25% to 0.25%, based on the actuarial value of assets. The funding report was prepared exclusively for TRA and the LCPR to determine the actuarial required contribution rate using the statutory investment return assumption of 7.00%.

In preparing the valuation, we relied, without audit, on information (some oral and some in writing) supplied by TRA staff. This information includes, but is not limited to, statutory provisions, member data and financial information. We found this information to be reasonable and comparable to the information used in last year's valuation. However, we did not audit the data. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different, and our calculations may need to be revised.

The actuarial required contribution rates are developed using the Entry Age Normal (EAN) cost method. An asset smoothing method, defined in statute, is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded actuarial accrued liability and are amortized as a level percentage of payroll over a closed period set in state statute. Actuarial assumptions, including the investment return assumption, mortality tables and others identified in the valuation report are prescribed by Minnesota Statutes Section 356.215, the Legislative Commission on Pensions and Retirement (LCPR), and the Board of Trustees. Collectively, these parties are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation method, and actuarial assumptions. If all assumptions are met and the scheduled increases in the employer and employee contribution rates are implemented, the current funding policy is not expected to result in the Plan reaching full funding by the target date of 2048. Actual experience that varies from that assumed may impact the Plan's ability to meet its funding goals, so long-term funding should be monitored on a regular basis. The policies, methods and assumptions used in this valuation are those that have been prescribed and are described in Appendix C of the valuation report.

In order to prepare the results in the July 1, 2024 actuarial valuation report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results. Future actuarial results may differ significantly from the current results presented in the valuation report due to factors such as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the

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scope of a standard actuarial valuation, an analysis of the range of potential results is not presented herein.

The actuary prepared the following supporting schedules in the Actuarial Section of the Annual Comprehensive Financial Report:

- Reconciliation of Member Data
- Actuarial Asset Value
- Actuarial Valuation Balance Sheet
- Determination of Unfunded Actuarial Accrued Liability and Supplemental Contribution Rate
- Changes in the Unfunded Actuarial Accrued Liability
- Determination of Contribution Sufficiency /(Deficiency) – Total
- Solvency Test
- Schedule of Funding Progress
- Schedule of Active Member Valuation Data

We also provided the following schedules in the Financial Section of the Annual Comprehensive Financial Report:

- Total Pension Liability
- Schedule of Changes in the Employers' Net Pension Liability
- Schedule of the Employers' Net Pension Liability
- Sensitivity Analysis on the Net Pension Liability

In addition, we provided the *Schedule of Contributions from Employers and Non-employer Contributing Entities* found in the Required Supplementary Information. The schedules are presented prospectively, and in time, trend analysis will become evident. Actuarial computations presented in the July 1, 2024 actuarial funding valuation report are for purposes of determining the sufficiency of the current statutory contributions to meet the funding goals of the System. The calculations have been made on a basis consistent with our understanding of the System's funding requirements and goals, and on a basis consistent with our understanding of the plan provisions described in Appendix B of the valuation report. Determinations for purposes other than meeting these requirements may be significantly different from the results shown in the July 1, 2024 actuarial funding valuation report. Accordingly, additional determinations may be needed for other purposes.

We also prepared actuarial computations as of June 30, 2024 for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standards Board (GASB) Statement No. 67. The results are presented in a separate report dated November 21, 2024. For GASB 67 purposes, TRA is a cost-sharing multiple employer plan. The actuarial assumptions used in the funding valuation report were also used for GASB 67 reporting. In addition, the entry age normal actuarial cost method, which is required to be used under GASB 67, is also used in the statutory funding valuation report. The actuarial assumptions and methods used in both the funding and the GASB 67 accounting valuation reports meet the parameters set by Actuarial Standard of Practice (ASOPs), as issued by the Actuarial Standards Board, and generally accepted accounting principles (GAAP) applicable in the United State of America as promulgated by the Governmental Accounting Standards Board.

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On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this information is complete and accurate, and that the valuation was prepared in accordance with principles of practice which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting recommendation of the American Academy of Actuaries. In addition, the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement System. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. Also, Pat Beckham and Brent Banister meet the requirements of "approved actuary" under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (c).

Respectfully submitted,

Patrice Beckham

Patrice A. Beckham, FSA, EA, FCA, MAAA
Consulting Actuary

Brent A. Banister

Brent Banister PhD, FSA, EA, FCA, MAAA
Chief Actuary

Ben Mobley

Ben Mobley, ASA, FCA, MAAA
Consulting Actuary

Summary of Actuarial Assumptions and Methods

Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. All assumptions are prescribed by Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the Board of Trustees. The assumptions prescribed are based on the full experience study dated August 2, 2023. For GASB 67 purposes, the long-term rate of return assumption is selected by TRA management in consultation with the actuary.

The Allowance for Combined Service Annuity was based on the recommendation of Deloitte Consulting LLP, the actuary for the LCPR. We are unable to judge the reasonableness of this assumption without performing a substantial amount of additional work beyond the scope of this assignment, so we have relied on Deloitte's findings.

Investment return	7% compounded annually.
Future post-retirement adjustments	1% for January, 2019 through January, 2023, then increasing by 0.1% each year up to 1.5% annually.
Salary increases	Reported salary for prior fiscal year, with new hires annualized, is increased according to the salary increase table shown in the rate table for current fiscal year and annually for each future year. See table of sample rates.
Payroll growth	3% per year
Future service	Members are assumed to earn future service at a full-time rate.
Mortality: Pre-retirement	PubT-2010(A) Employee Mortality Table, male rates set forward 1 year and female rates unadjusted. Generational projection uses the MP-2021 scale.
Healthy Retirees	PubT-2010 (A) Retiree Mortality Table, male rate set forward 1 year and female rates unadjusted. Generational projection uses the MP-2021 scale.
Beneficiaries	Pub-2010 (A) Contingent Survivor Mortality Table, male rates set forward 1 year and female rates unadjusted. Generational projection uses the MP-2021 scale.
Disabled Retirees	PubNS-2010 Disabled Retiree Mortality Table, male rates set forward 1 year and female rates unadjusted. Generational projection uses the MP-2021 scale.
Disability	Age-related rates based on experience; see table of sample rates.
Withdrawal	Rates vary by service based on actual plan experience, as shown in the rate table.
Expenses	Prior year administrative expenses expressed as percentage of prior year payroll.
Retirement age	Graded rates beginning at age 55 as shown in rate table. Members who have attained the highest assumed retirement age will retire in one year.
Percentage married	85% of male members and 65% of female members are assumed to be married. Members are assumed to have no children.
Age difference	Females two years younger than males.
Allowance for Combined Service Annuity	Liabilities for vested former members are increased by 7% and liabilities for non-vested former members are increased by 9% to account for the effect of some participants being eligible for a Combined Service Annuity.

Refund of contributions	All employees withdrawing after becoming eligible for a deferred benefit are assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Interest on member contributions	Members and former members who are eligible for the money purchase annuity are assumed to receive interest credits equal to the pre-retirement interest rate. All other members and former members receive the interest crediting rate as specified in statutes.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at unreduced retirement age.
Form of Payment	Married members are assumed to elect subsidized joint and survivor (J&S) form of annuity as follows: Males: 10% elect 50% J&S option 5% elect 75% J&S option 70% elect 100% J&S option 15% elect Straight Life option Females: 10% elect 50% J&S option 5% elect 75% J&S option 45% elect 100% J&S option 40% elect Straight Life option Members eligible for deferred annuities (including current terminated deferred members) and future disability benefits are assumed to elect a life annuity.
Missing data for members	Membership data was supplied by TRA as of the valuation date. This information has not been audited by CavMac. We have reviewed the information for internal consistency and we have no reason to doubt its substantial accuracy. In the small number of cases where submitted data was missing or incomplete and could not be recovered, the following assumptions were applied if needed: Data for active members: Salary, service, and date of birth: Based on current active demographics Gender: Female Data for terminated members: Average salary: $47,000 Date of termination: Derived from date of birth, original entry age, and service Data for in-pay members: Beneficiary date of birth: Wife two years younger than husband Gender: Based on first name Form of payment: Life annuity for retirees and beneficiaries, 100% J&S option for disabled retirees.

Changes in actuarial assumptions since the previous valuation	Economic Assumptions • The investment return assumption was reduced from 7.5% to 7%. Demographic Assumptions • Mortality: Update the mortality tables for active employees, retirees, disabled retirees, and contingent beneficiaries to recently published tables. • Retirement: Increase some of the Tier II early retirement rates and change some of the unreduced retirement rates for both Tiers to better align with actual experience. • Optional form election: Changes to the probability that new female retirees elect either the Straight Life Annuity or 100% J&S Annuity were refined to reflect the actual experience. • Termination of employment: Reductions in the rates of termination of employment in the first 10 years of employment and some very slight increases for 16 to 25 or better match the observed experience. • Disability: Decrease disability rates over age 45 by 15% to reflect the continued lower than expected observations.

Pre-retirement Mortality and Disability Rates (%)

	Pre-retirement Mortality* Rate (%)		Disability Rate (%)	
Age	Male	Female	Male	Female
20	0.029	0.012	—	—
25	0.015	0.008	—	—
30	0.021	0.013	—	—
35	0.029	0.019	0.010	0.010
40	0.041	0.029	0.030	0.030
45	0.067	0.045	0.043	0.043
50	0.110	0.068	0.085	0.085
55	0.169	0.099	0.136	0.136
60	0.263	0.149	0.213	0.213
65	0.436	0.250	—	—

Rates shown are for 2010, the base year of the tables.

Annuitant Mortality Rates (%)

	Retirement*		Contingent		Disability	
Age	Male	Female	Male	Female	Male	Female
55	0.245	0.189	0.854	0.439	2.201	1.742
60	0.379	0.284	1.067	0.596	2.584	1.956
65	0.618	0.446	1.446	0.839	3.193	2.256
70	1.134	0.766	2.258	1.272	4.113	2.862
75	2.161	1.443	3.586	2.037	5.537	4.003
80	4.082	2.762	5.711	3.410	7.929	6.007
85	7.677	5.241	9.361	6.075	11.678	9.331
90	13.971	9.744	15.547	10.979	17.681	13.665
95	23.960	17.771	24.625	18.386	25.226	19.298
100	34.636	28.160	34.636	28.160	34.636	28.160

Rates shown are for 2010, the base year of the tables.

Termination Rates

Service	Male	Female
Less than 1	20.00%	20.00%
1	12.00%	10.00%
2	8.50%	8.50%
3	6.00%	7.00%
4	5.00%	5.50%
5	4.25%	4.50%
6	3.75%	3.50%
7	3.25%	3.00%
8	2.75%	2.50%
9	2.25%	2.25%
10	2.00%	2.00%
15	1.10%	1.10%
20	0.80%	0.80%
25	0.55%	0.55%
30	0.50%	0.50%
Over 30	0.00%	0.00%

Retirement Rates for Coordinated Members (%)

Coordinated Tier II members age 62 or older with 30 or more years of service have 5% added to their early retirement rates

Age	Tier I Early	Tier I Unreduced	Tier II Early	Tier II Unreduced
55	5	35	5	
56	10	35	5	
57	10	35	5	
58	10	35	5	
59	14	35	5	
60	17	35	10	
61	20	35	15	
62	25	35	20	
63	25	35	20	
64	25	35	20	
65		40		45
66		40		35
67		30		30
68		30		30
69		30		30
70		30		35
71 and over		100		100

Salary Scale

Service (Yrs)	Select Salary Increase Before July 1, 2028	Ultimate Salary Increase After June 30, 2028
1	8.85%	9.25%
5	6.35%	6.75%
10	5.60%	6.00%
15	4.35%	4.75%
20	3.45%	3.85%
25	2.95%	3.35%
26 or more	2.85%	3.25%

Valuation Report Highlights
Summary of Key Valuation Results

	Actuarial Valuation as of 7/1/2024	7/1/2023
Participant Data		
Active members		
Number	85,962	84,983
Projected annual earnings for fiscal year (*000s*)	$ 6,501,070	$ 6,108,286
Average projected annual earnings for fiscal year 2024	$ 75,627	$ 71,877
Average age	44	44
Average service	12	12
Service retirements	63,128	63,219
Survivors	6,920	6,696
Disability retirements	432	429
Deferred retirements	20,606	19,418
Non-vested terminated members	41,476	40,089
Total	218,524	214,834
Liabilities and Funding Ratios *(dollars in thousands)*		
Accrued Benefit Funding Ratio		
Current assets (AVA)	$ 28,322,800	$ 26,903,914
Current benefit obligations	33,313,003	32,394,327
Funding ratio	85.02 %	83.05 %
Accrued Liability Funding Ratio		
Current assets (AVA)	$ 28,322,800	$ 26,903,914
Market Value of Assets (MVA)	29,092,479	26,752,069
Actuarial Accrued Liability (AAL)	35,446,800	35,008,293
Unfunded Actuarial Accrued Liability (UAAL)	7,124,000	8,104,379
Funding ratio (AVA)	79.90 %	76.85 %
Funding ratio (MVA)	82.07 %	76.42 %
Projected Benefit Funding Ratio		
Current and expected future assets	$ 42,213,918	$ 40,309,275
Current and expected future benefit obligations	43,471,130	42,753,840
Funding ratio (AVA)	97.11 %	94.28 %
Contributions *(% of payroll)*		
Normal Cost Rate	11.08 %	11.10 %
UAAL Amortization Payment	7.09 %	8.38 %
Expenses	0.29 %	0.29 %
Total Required Contribution (Chapter 356)	18.46 %	19.77 %
Statutory Contribution (Chapter 354)	17.21 %	17.24 %
Contribution (Deficiency)/Sufficiency	(1.25) %	(2.53) %

Actuary's Selected Commentary

July 1, 2024 Valuation

The Minnesota Teachers Retirement Association (TRA or System) provides retirement, disability, and death benefits to Minnesota public school teachers, administrators, and certain college faculty. This report presents the results of the July 1, 2024 actuarial funding valuation of the System. The primary purposes of performing the actuarial funding valuation are to:

- disclose asset and liability measures as of the valuation date;
- determine the Required Contribution Rate as set forth in Chapter 356 of the Minnesota statutes;
- determine the sufficiency of the Statutory Contribution Rate as set forth in Chapter 354 of the Minnesota statutes;
- determine the actuarial experience of the System since the last valuation date;
- assess and disclose the key risks associated with funding the System: and
- analyze and report on trends in System contributions, assets, and liabilities over the past several years.

There have been several changes since the July 1, 2023 actuarial valuation that impacted the results of the July 1, 2024 actuarial valuation. These include changes to the actuarial assumption, benefit provisions, and contribution rates as well as additional State appropriations. The 2023 Omnibus Pension Finance Bill, appropriated $176,166,838 to TRA, payable on October 1, 2023:

- $28,735,816 for the difference between the statutory 1.1% compounded COLA payable on January 1, 2024 and a one-time 2.5% lump-sum COLA for Coordinated plan members;
- $2,384,222 for the difference between the statutory 1.1% compounded COLA payable on January 1, 2024 and a one-time 4% lump-sum COLA for basic plan members; and
- $145,046,800 to pay down the Unfunded Actuarial Accrued Liability.

The demographic assumption changes based on our quadrennial experience study report dated August 2, 2023, have been approved by the Legislative Commission on Pensions and Retirement (LCPR). These changes include:

- Updating the assumed mortality tables for active employees, healthy retirees, disabled retirees, and contingent beneficiaries to Pub2010 family of tables.
- Increasing retirement rates for some of the Tier II early retirement ages and adjusting some of the unreduced retirement rates for both tiers to better match the observed experience.
- Adjusting the probability that new female retirees elect either the Straight Life Annuity or 100% Joint & Survivor Annuity to better match the observed experience.
- Reducing termination rates in the first ten years of employment and slightly increasing termination rates in years 16 to 25 to better match the observed experience.
- Decreasing disability rates beyond age 45 by 15% to reflect the continued lower than expected observations.

The 2024 Omnibus Pensions and Retirement Bill (HF 5040/SF 4643) lowered the normal retirement age for Tier II members from 66 to 65 effective July 1, 2024 instead of July 1, 2025 and provided for a one time state appropriates of $28.46 million to cover the cost. However the State appropriate was not received until August, 2024 so this change increased the Unfunded Actuarial Accrued Liability (UAAL) as of July 1, 2024, and there will be a decrease next year due to the appropriations.

In addition to other changes, the 2023 Tax Finance & Policy Bill (HF1938) extended the amortization period from 2048 to 2053 effective July 1, 2025. This change has since been rescinded and the amortization date will remain in 2048. This did not have an impact on the current valuation results.

The following table shows a summary of the cost impact on the July 1, 2024 valuation results due to the changes since the prior valuation discussed earlier.

(Dollars in Thousands)

	Before Changes	HF 3100 Contribution	Assumption Changes	Tier II NRA 65
Unfunded AAL (UAAL)	$8,161,350	$8,008,753	$7,099,429	$7,124,000
Impact		**(152,597)**	**(909,324)**	**24,571**
Funded Ratio	77.6%	78.0%	80.0%	79.9%
Impact		**0.4%**	**2.0%**	**(0.1)%**
Total Required Contribution	19.76%	19.61%	18.44%	18.46%
Impact		**(0.15)%**	**(1.17)%**	**0.02%**
Contribution (Deficiency)/ Sufficiency	(2.55)%	(2.40)%	(1.23)%	(1.25)%
Ultimate (Deficiency)/ Sufficiency	(1.55)%	(1.40)%	(0.23)%	(0.25)%

Minnesota Statute, Section 326.215 prescribes the method for amortization the System's UAAL. In accordance with paragraph (c) of subd.11, if there is an increase in the System's UAAL due to a change in the actuarial assumptions, plan provision, or actuarial cost method, a new amortization period is determined. The new amortization period is determined by blending the amount needed to amortize the prior UAAL as a level percent of pay over the prior amortization period and the amount needed to amortize the increase in the UAAL as a level percent of pay over 30 years. The resulting blended amortization period is then rounded to the nearest integer. Overall, the changes to the actuarial assumptions and plan provisions do not increase the UAAL. Therefore, the UAAL amortization date is unchanged and remains June 30, 2048 in the July 1, 2024 valuation.

In addition to all the changes previously discussed, the actuarial valuation captures the actual experience that has occurred in the last fiscal year. The valuation results, which provide a "snapshot" view of the System's financial condition on July 1, 2024, reflect net favorable experience for the past plan year as demonstrated by an Unfunded Actuarial Accrued Liability (UAAL) that was lower than expected. The UAAL as of July 1, 2024 is $7.1 billion, compared to an expected UAAL of $7.3 billion. The favorable experience of $135 million was the net result of an experience gain of $409 million on the Actuarial Value of Assets (AVA) and an experience loss of $273 million on the System's liabilities. The rate of return on the market value of assets for fiscal year 2024 was 12.3%, as reported by the State Board of Investment. Due to the application of asset smoothing method, the rate of return on the Actuarial Value of Assets 8.6% resulting in an experience gain on assets. The primary factor affecting the net liability loss was salary losses from actual salary increases that were larger than expected by the assumption.

A summary of the key valuations results from the July 1, 2024 actuarial valuation, compared to the July 1, 2023 valuation, is shown in the following table.

	Actuarial Valuation as of	
	July 1, 2024	July 1, 2023
Total Required Contribution Rate (Chapter 356)	18.46%	19.77%
Employer Contributions	8.91%	8.91%
Employee Contributions	7.75%	7.75%
Direct Aids (Chapters 354 and 423A)	0.55%	0.58%
Sufficiency/(Deficiency)	(1.25)%	(2.53)%
Unfunded Actuarial Accrued Liability *(dollars in millions)*	$7,124	$8,104
Funded Ratio (Actuarial Assets)	79.90%	76.85%

The prior valuation showed that there was a contribution deficiency of 2.53% of pay. Due to a combination of factors, including the favorable investment experience and adopting the new set of demographic assumptions, the contribution deficiency decreased to 1.25% of pay in the current valuation. Effective July 1, 2025, the employer contribution rate will increase by .75% and the employee contribution rate will increase by .25%, resulting in an ultimate contribution deficiency of .25%.

Experience for the Last Plan Year

Numerous factors contributed to the change in the System's assets, liabilities and Required Contribution Rate (actuarial contribution rate) between July 1, 2023, and July 1, 2024. The components are examined in the following discussion.

Assets

As of June 30, 2024, TRA had net assets of $29.1 billion, as measured on a market value basis. This represents a $2.3 billion increase from the prior year.

The market value of assets is not used directly in the calculation of the UAAL Funded Ratio and the Required Contribution Rate. An asset valuation method, which smooths the effect of market fluctuations, is used to determine the value of assets used in the valuation, called the "actuarial value of assets." In this year's valuation, the actuarial value of assets as of June 30, 2024 was $28.3 billion, an increase of $1.4 billion from the prior valuation. The components of change in the asset values are shown in the following table:

(Dollars in Millions)

	Actuarial Value	Market Value
Net Assets, June 30, 2023	**$26,904**	**$26,752**
Employer & Member Contributions	1,237	1,237
Benefit Payments and Administrative Expenses	(2,098)	(2,098)
Investment Income	2,280	3,201
Net Assets, June 30, 2024	**$28,323**	**$29,092**
Rate of Return	**8.6%**	**12.3%**

- *Under LCPR guidelines, this amount does not include supplemental payments which could occur after the expiration of the remaining 24 year amortization period.*
- *Does not reflect deferred investment experience in the asset smoothing method. Total expected future assets on a market value basis of $42,983,597.*
- *Former members with insufficient service to vest who have not collected a refund of member contributions as of the valuation date.*

The Minnesota State Board of Investment (SBI) reported a rate of return of 12.3% on the market value of assets for fiscal year 2024. Due to the application of the asset smoothing method, including the scheduled recognition of the deferred investment experience from prior years, the rate of return on the actuarial value of assets was 8.6%. Because this rate of return was higher than the assumed rate of return of 7%, an actuarial gain of $409 million occurred.

Please see page 93 of this report for more detailed information on the market and actuarial value of assets.

Liabilities

The Actuarial Accrued Liability (AAL) is the portion of the present value of future benefits that will not be paid by future normal costs. The difference between this liability and the actuarial value of assets at the same date is called the Unfunded Actuarial Accrued Liability (UAAL). In general, the UAAL is reduced if the contributions to the System exceed the normal cost for the year plus interest on the prior year's UAAL. However, actuarial experience also impacts the UAAL from one year to the next.

The UAAL is shown below as of July 1, 2024:

(Dollars in Millions)

	Actuarial Value	Market Value
Actuarial Accrued Liability	$35,447	$35,447
Value of Assets	$28,323	$29,092
Unfunded Actuarial Accrued Liability	$7,124	$6,354
Funded Ratio	79.90%	82.07%

See pages 95-96 of the report for the detailed development of the UAAL.

Changes in the UAAL occur for various reasons. The net decrease in the UAAL from July 1, 2023, to July 1, 2024, was $980 million. The components of this net change are shown in the next table:

(Dollars in Millions)

Unfunded Actuarial Accrued Liability July 1, 2023	**$**	**8,104**
Expected change from amortization method		38
Actual Contributions vs Required Rate		160
Additional Contributions per HF 3100		(153)
Investment experience on actuarial		(409)
Liability experience		274
Assumption Changes		(909)
Benefit provision changes		25
Other experience		(6)
Subtotal	$	(980)
Unfunded Actuarial Accrued Liability July 1, 2024	**$**	**7,124**

As shown above, various types of experience impacted the UAAL from July 1, 2023 to July 1, 2024, but the most significant were the adoption of a new set of demographic assumptions and favorable investment experience during fiscal year 2024. The UAAL is financed as a level percentage of payroll so the dollar amount of the UAAL payments increase each year with assumed payroll increases of 3%. As a result of the payment schedule, contributions in the early part of the amortization period are less than the interest on the UAAL and the dollar amount of the UAAL increases. This is illustrated by the expected increase of $38 million shown in the table above.

To the extent the Statutory Contribution Rate is more than the Required Contribution Rate, which was the case during the prior year, the UAAL is paid off less rapidly than expected based on the System's amortization schedule. During fiscal year 2024, the contribution deficiency increased the UAAL by $160 million. However, this was largely offset by the additional contributions provided by the 2023 Pension Omnibus Budget Bill, which decreased the UAAL by $153 million.

Actuarial gains (losses), which result from actual experience that is more (less) favorable than anticipated based on the actuarial assumptions, are reflected in the UAAL. These are measured as the difference between the expected UAAL band the actual UAAL, taking into account any changes due to actuarial assumptions and methods or benefit provision changes. Overall, the System experienced a net actuarial gain of $135 million which may be explained by considering the separate experience of assets and liabilities. As noted earlier, there was a $409 million gain on the actuarial value of assets and a $274 million loss on liabilities. The liability loss was primarily the result of salary losses from pay increases that were larger than expected based on the assumption.

An evaluation of the UAAL on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the UAAL and the progress made in its funding is to track the funded ratio, the ratio of the actuarial value of assets to the Actuarial Accrued Liability. The funded status information is shown in the following table.

(Dollars in Millions)

Date	Funded Ratio	Unfunded Actuarial Accrued Liability
7/1/20	76.1%	$7,192
7/1/21	80.2%	$6,087
7/1/22	82.0%	$5,690
7/1/23	76.9%	$8,104
7/1/24	79.9%	$7,124

Note that if the funded status were calculated using the market value of assets, the results could differ. The funded ratios and UAAL measures, as shown, are not indicative of whether or not the System could settle all current benefit obligations with existing assets. Furthermore, these results do not, on their own, indicate whether or not future funding of the System will be required, nor the amount.

Contribution Rate

Under the Entry Age Normal cost method, the actuarial contribution rate consists of three components:

- a "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date,
- an "Unfunded Actuarial Accrued Liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets (Unfunded Actuarial Accrued Liability); and
- an amount to cover estimated administrative expenses for the plan year.

See page 97 of the report for the detailed development of these contribution rates summarized in the table below. These calculations are based on the actuarial value of assets.

As noted earlier, once the employer and employee contribution rate increase, the contribution deficiency is expected to be 0.25% of pay.

Contribution Rates	July 1, 2024	July 1, 2023
Normal Cost Rate	11.08%	11.10%
UAAL Contribution Rate	7.09%	8.38%
Expenses	0.29%	0.29%
Total Required Contribution Rate	18.46%	19.77%
Statutory Contribution Rate	17.21%	17.24%
Contribution (Deficiency)/ Sufficiency	(1.25)%	(2.53)%
Contribution (Deficiency)/ Sufficiency Reflecting Future Scheduled Contributions Increases	(0.25)%	0.55%

The impact of the various factors discussed earlier on the *Required Contribution Rate* are shown in the table located on page 97.

When a system is funded with fixed contribution rates (statutory contribution rate), it is expected that the fixed contribution rate may be either above or below the actuarial contribution rate (required contribution rate for TRA), as determined in the actuarial valuation each year. When the statutory contribution rate is consistently lower than the required contribution rate for a long period, it can significantly impact the funding progress of the System and result in an increasing UAAL and declining funded ratio. For TRA, the statutory contribution rate was significantly below the required contribution rate from 2008 to 2017. Over that time, the funded status of the System declined from 92% to 76%. Actual investment experience over the early years of that time period also had a significant impact on the decline in the System’s funding.

There was a contribution sufficiency during fiscal years 2022 and 2023. However, after lowering the investment return assumption from 7.5% to 7% in 2023, the valuation results have shown a contribution deficiency in the past two valuations. This deficiency means that, if all current assumptions are exactly met in the future, the UAAL will not be fully amortized at the scheduled date of June 30, 2048.

The UAAL will continue to be significantly impacted from year to year by factors other than statutory contribution levels, such as actual versus expected experience, assumption changes, financial changes and changes to the amortization period. The contribution deficiency and projected full funding date in future valuations will continue to be monitored to ensure the current funding policy will meet the System's goals.

The actuarial contribution rate (Required Contribution Rate) is determined based on the snapshot of the System taken on the valuation date, July 1, 2024. The actuarial contribution rate in future years will change each year as the deferred actuarial investment experience is recognized and other experience (both investment and demographic) impacts the System. The most volatile component of the actuarial contribution rate is typically the actual investment return, although the asset smoothing method mitigates the immediate impact of significantly different returns than assumed.

Summary

The two most impactful events since the prior valuation were adopting a new set of demographic assumptions and favorable investment experience during fiscal year 2024. Their combined impact decreased the UAAL by $1.3 billion and the required contribution rate by 1.58% of pay. As a result of the favorable investment experience on the market value of assets during fiscal year 2024, the net deferred investment loss of $152 million in last year's valuation has now become a $770 million net deferred investment gain. Absent unfavorable investment experience, the deferred asset gains are expected to flow through the smoothing method over the next four years, increasing the funded ratio and decreasing the required contribution rate. Another factor that had a significant impact on the July 1, 2024 valuation was the experience loss on the System's liabilities. The largest source of liability experience was due to larger pay increases than expected, based on the assumption

Due to the application of the asset smoothing method, the return on the actuarial value of assets was 8.6%. Since this return was higher than the assumed rate of return of 7% for the fiscal year ending 2024, there was a $409 million actuarial gain on the actuarial value of assets. Coupled with a $274 million loss on the systems liabilities, the net actuarial gain was $135 million.

As mention earlier, the System's utilizes an asset smoothing method in the valuation process. While this is a common procedure for public retirement systems, it is important to identify the potential impact of the deferred investment experience. The asset smoothing method impacts only the timing of when the actual market experience is recognized in the valuation process. The net deferred investment gain of $770 million represents about 2.6% of the market value of assets.

The key valuation results from the July 1, 2024 actuarial valuation are shown below, using both actuarial and market value of assets.

	Actuarial Value	Market Value
Statutory Rate	17.21%	17.21%
Required Contribution		
Normal Cost	11.08%	11.08%
UAAL Contribution	7.09%	6.33%
Expenses	0.29%	0.29%
Total Required Contribution	18.46%	17.70%
Sufficiency (Deficiency)	(1.25)%	(0.49)%
UAAL (*dollars in millions*)	$7,124	$6,354
Funded Ratio	79.90%	82.07%

Note: Does not reflect future schedules increases in employer and employee rates.

The long-term financial health of this System, like all retirement systems, is heavily dependent on two key items: (1) future investment returns and (2) contributions to the System. Once the employer and employee contribution rates increase, the contribution deficiency is expected to be .25% of pay. Of course, actual experience over time will unfold differently from assumed, so additional adjustments may be necessary in the future. It is especially important to note that it is the actual investment returns, not the assumed investment return, that will ultimately determine the cost of providing the promised benefits.

The complete Actuarial Valuation Funding Report is available on the TRA website at

https://minnesotatra.org/financial/annual-reports/

Reconciliation of Member Data*

Fiscal Year Ended June 30, 2024

	Active** Members	Former*** Members	Benefit Recipients**** Service Retirements	Disability Retirements	Survivors	Total
Members on 6/30/2023	84,983	59,507	63,219	429	6,696	214,834
New hires	6,032	—	—	—	—	6,032
Transfer from active to	(5,459)	5,459	—	—	—	—
Transfer from inactive to	1,697	(1,697)	—	—	—	—
Return from zero balance	342	6	—	—	—	348
Return from disability	1	—	—	—	—	1
Refunded	(369)	(677)	—	—	—	(1,046)
Refunded (non-repayable)	(7)	(10)	—	—	—	(17)
Retirements	(1,247)	(483)	1,711	(26)	—	(45)
Benefits began	—	—	—	50	667	717
Benefits ended	—	—	—	(5)	(52)	(57)
Deaths	(33)	(70)	(1,785)	(13)	(390)	(2,291)
Adjustments	22	47	(17)	(3)	(1)	48
Net changes	979	2,575	(91)	3	224	3,690
Members on 6/30/2024	85,962	62,082	63,128	432	6,920	218,524

* *Recipient counts include all pensions in force, including double counting of multiple benefit types. Service retirements include supplemental, and variable optional joint annuitants.*

** *Active members include 1 Basic and 85,961 Coordinated members*

*** *Former members include 3 Basic and 62,079 Coordinated members*

**** *Benefit recipients include 2,228 Basic members and 68,252 Coordinated members.*

Former Member Statistics	Vested	Non-Vested	Total
Number	20,606	41,476	62,082
Average Age	48.6	48.4	48.4
Average Service (years)	8.1	0.8	3.2
Average annual benefits, with augmentation to Normal Retirement Date and Combined Service Annuity load	$9,312	N/A	N/A
Average refund value, with Combined Service Annuity load	$43,049	$2,977	$16,278

Actuarial Value of Assets

Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

1.	**Market value of assets available for benefits**				**$**	**29,092,479**
2.	Determination of average balance					
	a. Assets available at July 1, 2023*				$	26,754,503
	b. Assets available at June 30, 2024*					29,092,479
	c. Net investment income for fiscal year ending June 30, 2024					3,199,055
	d. Average balance *[a. + b. -c.]/2*				$	26,323,964
3.	Expected return *[7% * 2.d.]*				$	1,842,677
4.	Actual return				$	3,199,055
5.	Current year unrecognized asset return *(4.-3.)*				$	1,356,378
6.	Unrecognized asset returns					
			Original Amount	**% Not Recognized**		
	a. Year ended June 30, 2024	$	1,356,378	80%	$	1,085,102
	b. Year ended June 30, 2023	$	333,761	60%	$	200,257
	c. Year ended June 30, 2022	$	(3,798,328)	40%	$	(1,519,331)
	d. Year ended June 30, 2021	$	5,018,257	20%	$	1,003,651
	e. Total return not yet recognized				$	769,679
7.	**Actuarial value at June 30, 2024 *(1. - 6.e.)***				**$**	**28,322,800**

**Before recognition of ELSA accounts payable.*

Actuarial Valuation Balance Sheet

Fiscal Year Ended June 30, 2024

The actuarial balance sheet is based on the fundamental equation that, at any given time, the present value of benefits to be paid in the future must be equal to the assets on hand plus the present value of future contributions to be received. The total rate of contribution is determined as that amount which will make the total present and potential assets balance with the total present value of projected benefits.

(Dollars in Thousands)

A.	Actuarial Value of Assets	$ 28,322,800
B.	Expected Future Assets	
	1. Present value of expected future statutory supplemental contributions*	$ 5,866,788
	2. Present value of expected future normal cost contributions	8,024,330
	3. Total Expected Future Assets *(1. + 2.)*	$ 13,891,118
C.	Total Current and Expected Future Assets**	$ 42,213,918

		Non-Vested Benefits	Vested Benefits	Total
D.	Current Benefit Obligations			
	1. Benefit recipients			
	a. Service retirements	$ —	$ 18,672,071	$ 18,672,071
	b. Disability	—	154,625	154,625
	c. Survivors	—	1,318,330	1,318,330
	2. Deferred retirements with applicable future	—	1,076,989	1,076,989
	3. Former members without vested rights***	123,485	—	123,485
	4. Active members	110,102	11,857,401	11,967,503
	5. Total Current Benefit Obligations	$ 233,587	$ 33,079,416	$ 33,313,003
E.	Expected Future Benefit Obligations			$ 10,158,127
F.	Total Current and Expected Future Benefit Obligations			$ 43,471,130
G.	Unfunded Current Benefit Obligations *(D.5 - A)*			$ 4,990,203
H.	Unfunded Current and Future Benefit Obligations *(F. - C.)*			$ 1,257,212

* *Under LCPR guidelines, this amount does not include supplemental payments, which could occur after the expiration of the remaining 24 year amortization period.*

** *Does not reflect deferred investment experience in the asset smoothing method. Total expected future assets on a market value basis is $42,493,597.*

*** *Former members with insufficient service to vest who have not collected a refund of member contributions as of the valuation date.*

Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate

As of July 1, 2024

(Dollars in Thousands)

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
1. Active Members			
a. Retirement Annuities	$ 20,893,229	$ (6,959,858)	$ 13,933,371
b. Disability Benefits	425,247	(189,684)	235,563
c. Survivor Benefits	195,106	(73,348)	121,758
d. Deferred Retirements	596,624	(649,584)	(52,960)
e. Refunds	15,424	(151,856)	(136,432)
f. Total	$ 22,125,630	$ (8,024,330)	$ 14,101,300
2. Deferred Retirements with Applicable Future	1,076,989	—	1,076,989
3. Former Members Without Vested Rights	123,485	—	123,485
4. Benefit Recipients	20,145,026	—	20,145,026
5. Total Actuarial Accrued Liability	$ 43,471,130	$ (8,024,330)	$ 35,446,800
6. Actuarial Value of Assets (page 93, line 7)			$ 28,322,800
7. Unfunded Actuarial Accrued Liability			$ 7,124,000

Determination of Supplemental Contribution Rate*

1. Present value of future payrolls through the amortization date of June 30, 2048	$100,458,706
2. Supplemental contribution rate *(A.3./B.1.)*	7.09%

* *On a market value of assets basis, the Unfunded Actuarial Accrued Liability is $6,354,321 and the supplemental contribution rate is 6.33% of payroll.*

Changes in Unfunded Actuarial Accrued Liability (UAAL)

Fiscal Year Ended June 30, 2024

(Dollars in Thousands)

			Amount
A.	Unfunded Actuarial Accrued Liability at beginning of year		$ 8,104,379
B.	Changes due to interest requirements and current rate of funding*		
	1.	Normal cost and actual administrative expenses	695,531
	2.	Contributions	(1,236,557)
	3.	One-time lump sum COLA payments per HF 3100	31,120
	4.	Interest on A., B.1 and B.2. and B3. at 7%	549,762
	5	Total *(B.1. + B.2. + B.3 + B.4..)*	$ 39,856
C.	Expected Unfunded Actuarial Accrued Liability at end of year (*A. + B.4.*)		$ 8,144,235
D.	Increase (decrease) due to actuarial losses (gains) because of experience deviations from		
	1.	Salary increases	$ 197,432
	2.	Investment return (actuarial assets)	(408,960)
	3.	Mortality of active members	(1,408)
	4.	Mortality of benefit recipients	(45,928)
	5.	Retirement from active service	102,494
	6.	Other items	20,888
	7.	Total	$ (135,482)
E.	Unfunded Actuarial Accrued Liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.7.)*		$ 8,008,753
F.	Change in Unfunded Actuarial Accrued Liability due to change in plan amendments		$ 24,571
G.	Change in Unfunded Actuarial Accrued Liability due to change in assumptions		$ (909,324)
H.	Unfunded Actuarial Accrued Liability at end of year (*E. + F. + G.*)		$ 7,124,000

* *The amortization of the Unfunded Actuarial Accrued Liability (UAAL) using the current amortization method results in initial payments less than the "interest only" payment on the UAAL. Payments less than the interest only amount will result in the UAAL increasing in the absence of actuarial gains.*

Determination of Contribution Sufficiency/(Deficiency) - Total

July 1, 2024

The actuarial required contribution (ARC) is the sum of the normal cost, a supplemental contribution to amortize the UAAL, and an allowance for expenses.

(Dollars in Thousands)

	Percent of Payroll	Dollar Amount
A. Statutory Contributions - Chapter 354		
1. Employee contributions	7.75%	$ 503,836
2. Employer contributions*	8.91%	579,254
3. Supplemental contributions**		
a. 1993 Legislation	0.08%	5,000
b. 1996 Legislation	0.05%	3,256
c. 1997 Legislation	0.20%	12,954
d. 2014 Legislation	0.22%	14,377
4. Total	17.21%	$ 1,118,677
B. Required Contributions - Chapter 356		
1. Normal cost		
a. Retirement benefits	9.65%	$ 627,363
b. Disability benefits	0.25%	16,253
c. Survivor benefits	0.10%	6,501
d. Deferred retirement benefits	0.86%	55,909
e. Refunds	0.22%	14,302
f. Total	11.08%	$ 720,328
2. Supplemental contribution for the amortization of the Unfunded Actuarial Accrued Liability by June 30, 2048	7.09%	460,926
3. Allowance for expenses	0.29%	$ 18,853
4. Total actuarial contribution for fiscal year ending June 30, 2023***	18.46%	$ 1,200,107
C. Contribution Sufficiency / (Deficiency) (A.4. - B.4.)***	(1.25)%	$ (81,430)

Note: Projected annual payroll for fiscal year beginning on the valuation date: $6,501,070

* *Employer contribution rate is blended to reflect rates of 16.39% of pay for Basic members, 8.75% for pay for Coordinated members not employed by Special School District #1 (Minneapolis Schools), and 12.39% of pay for Coordinated members who are employed by Special School District #1.*

** *Includes contributions from Special School District #1 and the City of Minneapolis, matching state contributions.*

*** *On a market value of assets basis, the total required contribution is 17.70% of payroll and the contribution deficiency is 0.49% of payroll.*

Schedule of Funded Liabilities by Type

(Dollars in Thousands)

	Aggregate Accrued Liabilities						
Valuation as of June 30	(1) Member Contributions	(2) Retires and Beneficiaries	(3) Members (Employer Financed Portion)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)
2015	$2,637,237	$16,500,275	$6,424,643	$19,696,893	100%	100%	8.7%
2016	$3,033,160	$17,187,332	$6,495,724	$20,194,279	100%	100%	—%
2017	$3,246,851	$17,634,270	$6,546,581	$21,062,789	100%	100%	2.8%
2018	$3,442,582	$18,424,228	$6,776,213	$22,022,842	100%	100%	2.3%
2019	$3,653,579	$18,755,398	$6,837,197	$22,466,848	100%	100%	0.3%
2020	$3,879,281	$19,039,591	$7,210,308	$22,936,908	100%	100%	0.3%
2021	$4,114,425	$19,372,413	$7,328,129	$24,728,337	100%	100%	16.9%
2022	$4,337,381	$19,689,686	$7,588,830	$25,925,803	100%	100%	25.0%
2023	$4,606,884	$20,670,139	$9,731,270	$26,903,914	100%	100%	16.7%
2024	$4,928,794	$20,145,026	$10,372,980	$28,322,800	100%	100%	31.3%

Schedule of Active Member Valuation Data

(Dollars in Thousands)

Year Ended June 30	Active Members	Annual Covered Payroll	% Increase in Covered Payroll	Average Annual Member Salary
2015	79,406	$4,306,426	6.2%	$54,233
2016	80,530	$4,515,699	4.9%	$56,075
2017	81,811	$4,688,875	3.8%	$57,314
2018	82,495	$4,832,917	3.1%	$58,584
2019	82,965	$5,000,930	3.5%	$60,278
2020	83,149	$5,166,241	3.3%	$62,132
2021	81,821	$5,326,108	3.0%	$65,095
2022	84,308	$5,573,701	4.4%	$66,111
2023	84,983	$5,735,250	2.8%	$67,487
2024	85,962	$6,094,735	5.9%	$71,119

Schedule of Retirees and Beneficiaries
Added To and Removed From Retirement Rolls

Through June 1, 2024 – End of Budget Year for Benefit Payments**

	Added To Rolls		Removed From Rolls		June 1 Payment			
Fiscal Year	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	Average Annual Allowances	Change from Prior Year
2015*								
Retirement	3,901	$ 139,486,500	1,219	$ 113,360,695	56,087	$1,507,085,583	$ 26,871	(0.3)%
Disability	91	$ 4,201,093	74	$ 5,046,531	583	$ 11,561,844	$ 19,832	3.0 %
Beneficiaries	623	$ 25,490,532	269	$ 17,055,001	5,090	$ 134,071,302	$ 26,340	0.7 %
2016								
Retirement	2,700	$ 74,501,674	1,253	$ 40,121,659	57,534	$1,559,304,348	$ 27,102	0.9 %
Disability	56	$ 1,333,271	101	$ 1,987,290	538	$ 11,126,018	$ 20,680	4.1 %
Beneficiaries	569	$ 13,400,450	282	$ 6,445,318	5,377	$ 142,825,257	$ 26,562	0.8 %
2017								
Retirement	2,362	$ 67,444,049	1,264	$ 38,365,148	58,632	$1,608,549,654	$ 27,436	1.2 %
Disability	73	$ 1,774,135	75	$ 1,683,296	536	$ 11,352,435	$ 21,180	2.4 %
Beneficiaries	512	$ 13,397,711	327	$ 8,017,689	5,562	$ 150,944,018	$ 27,124	2.1 %
2018								
Retirement	2,453	$ 71,176,463	1,352	$ 42,530,337	59,703	$1,655,206,770	$ 27,725	1.0 %
Disability	50	$ 1,169,477	71	$ 1,752,096	515	$ 10,959,775	$ 21,181	— %
Beneficiaries	524	$ 12,771,988	318	$ 9,805,060	5,768	$ 156,474,569	$ 27,114	— %
2019								
Retirement	2,534	$ 74,848,967	1,486	$ 48,787,356	60,751	$1,684,545,764	$ 27,729	— %
Disability	46	$ 1,064,007	61	$ 1,387,416	500	$ 10,730,297	$ 21,461	1.3 %
Beneficiaries	597	$ 16,566,582	333	$ 9,425,264	6,032	$ 164,750,333	$ 27,308	0.7 %
2020								
Retirement	2,431	$ 75,403,042	1,527	$ 48,401,177	61,654	$1,716,225,832	$ 27,836	0.4 %
Disability	45	$ 1,071,593	67	$ 1,693,134	478	$ 10,199,737	$ 21,338	(0.6)%
Beneficiaries	600	$ 15,484,216	375	$ 11,073,721	6,258	$ 170,485,292	$ 27,243	(0.2)%
2021								
Retirement	2,170	$ 70,253,196	1,720	$ 53,949,384	62,104	$1,738,042,982	$ 27,986	0.5 %
Disability	50	$ 1,338,348	66	$ 1,619,669	462	$ 10,011,756	$ 21,670	1.5 %
Beneficiaries	671	$ 18,918,195	384	$ 11,429,930	6,545	$ 179,410,505	$ 27,412	0.6 %
2022								
Retirement	2,424	$ 79,292,850	1,691	$ 52,985,417	62,837	$1,769,820,491	$ 28,165	0.6 %
Disability	34	$ 1,057,394	61	$ 1,547,973	435	$ 9,603,295	$ 22,077	1.8 %
Beneficiaries	685	$ 16,961,565	406	$ 13,222,404	6,824	$ 184,546,470	$ 27,044	(1.4)%
2023								
Retirement	2,285	$ 77,312,068	1,739	$ 54,928,509	63,383	$1,798,182,435	$ 28,370	0.7 %
Disability	50	$ 1,426,283	46	$ 998,381	439	$ 10,114,850	$ 23,041	4.2 %
Beneficiaries	658	$ 17,509,404	447	$ 13,920,956	7,035	$ 189,681,876	$ 26,963	(0.3)%
2024								
Retirement	1,846	$ 60,534,890	1,803	$ 56,847,248	63,426	$1,809,752,995	$ 28,533	0.6 %
Disability	50	$ 1,758,581	51	$ 1,239,936	438	$ 10,728,953	$ 24,495	5.9 %
Beneficiaries	690	$ 18,911,269	451	$ 13,705,888	7,274	$ 196,632,846	$ 27,032	0.3 %

* *2015 data reflects higher additions and removals associated with the conversion of former DTRFA benefit recipient rolls into TRA benefit payment systems.*

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

Schedule of Funding Progress *(Unaudited)*

(Dollars in Thousands)

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) (B)	Unfunded AAL (UAAL) (B–A)	Funded Ratio (A / B)	Actual Covered Payroll (Previous FY) (C)	UAAL as Percentage of Covered Payroll (B–A) / (C)
07/01/15	$19,696,893	$25,562,155	$5,865,262	77.05%	$4,306,426	136.20%
07/01/16	$20,194,279	$26,716,216	$6,521,937	75.59%	$4,515,699	144.43%
07/01/17	$21,062,789	$27,427,702	$6,364,913	76.79%	$4,688,875	135.74%
07/01/18	$22,022,842	$28,643,023	$6,620,181	76.89%	$4,832,917	136.98%
07/01/19	$22,466,848	$29,246,174	$6,779,326	76.82%	$5,000,930	135.56%
07/01/20	$22,936,908	$30,129,180	$7,192,272	76.13%	$5,166,241	139.22%
07/01/21	$24,728,337	$30,814,967	$6,086,630	80.25%	$5,326,108	114.28%
07/01/22	$25,925,803	$31,615,897	$5,690,094	82.00%	$5,573,701	102.09%
07/01/23	$26,903,914	$35,008,293	$8,104,379	76.85%	$5,735,250	141.31%
07/01/24	$28,322,800	$35,446,800	$7,124,000	79.90%	$6,094,735	116.89%

Schedule of Contributions From the Employer and Other Contributing Entities *(Unaudited)*

(Dollars in Thousands)

Year End June 30	Actuarially Required Contribution Rate (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	ARC Annual Required Contributions [(a) x (b)] - (c)	Actual* Employer Contribution	Percentage Contributed
2015	19.15%	$4,261,626	$331,905	$484,196	$358,367	74.01%
2016	17.87%	$4,515,699	$347,256	$459,699	$390,548	84.96%
2017	18.72%	$4,688,875	$361,175	$516,582	$403,378	78.09%
2018	18.43%	$4,832,917	$374,550	$516,157	$414,315	80.27%
2019	17.18%	$5,000,930	$386,669	$472,491	$438,887	92.89%
2020	17.18%	$5,166,241	$396,679	$490,881	$460,810	93.87%
2021	17.65%	$5,326,108	$410,162	$529,896	$486,669	91.84%
2022	16.33%	$5,573,701	$428,993	$481,192	$518,269	107.71%
2023	15.72%	$5,735,250	$442,448	$459,133	$544,351	118.56%
2024	19.77%	$6,094,735	$480,136	$724,793	$756,421	104.36%

**Includes contribution from other sources (if applicable).*

STATISTICAL

Statistical Summary

TRA complies with GASB Statement 44 (GASB 44), Economic Condition Reporting: The Statistical Section, issued in May 2004. The pronouncement establishes and modifies requirements related to the supplementary information presented in this section of the report. This section of the report provides detailed information about TRA as a context for understanding what the information in the financial statement note disclosures and required supplementary information indicates about the Association's overall financial condition.

The schedules and graphs beginning on page 103 show trend information about the growth of TRA assets over the past 10 years. These schedules, and others, provide detailed information about the trends of key sources of additions and deductions to plan assets.

The Contribution Rate chart on page 103 provides historical information on the total member and employer contribution rates.

The schedule of Pension Assets Compared to Pension Liabilities, found on pages 104-105, show the funding progress of the plan for the past 10 years on accumulating assets to cover pension liabilities which will ultimately be due at retirement.

The schedules on pages 106-111 include detailed information regarding the number and type of benefit recipients, and information as to the benefit amount.

The chart on page 112 provides a profile of TRA active members on June 30, 2024, by age and service credit totals.

The chart on page 113 contains information on the total number of members by type.

The schedules on page 114 detail the largest TRA employer units by covered employees and by types of employer.

All data is derived from TRA internal sources and the actuarial consultant.

The projected benefit payments (page 118) for the next 25 years have been supplied by TRA's actuarial advisor, CavMac.

10-Year History of Fiduciary Net Position

(Dollars in Thousands)

For fiscal year ending June 30	Fiduciary Net Position	% Change From Prior Year
2015	$ 20,446,091	0.8%
2016	$ 19,424,431	(5.0)%
2017	$ 21,258,090	9.4%
2018	$ 22,362,087	5.2%
2019	$ 22,876,056	2.3%
2020	$ 22,744,996	(0.6)%
2021	$ 28,361,757	24.7%
2022	$ 25,596,344	(9.8)%
2023	$ 26,754,503	4.5%
2024	$ 29,092,479	8.7%

10-Year History of Contribution Rates

For fiscal year ending June 30	Basic Program Employee Contribution Rate	Basic Program Employer Contribution Rate *	Basic Program Total Contribution Rate	Coordinated Employee Contribution Rate	Coordinated Employer Contribution Rate *	Coordinated Total Contribution Rate
2015	11.00%	11.50%	22.50%	7.50%	7.50%	15.00%
2016	11.00%	11.50%	22.50%	7.50%	7.50%	15.00%
2017	11.00%	11.50%	22.50%	7.50%	7.50%	15.00%
2018	11.00%	11.50%	22.50%	7.50%	7.50%	15.00%
2019	11.00%	11.71%	22.71%	7.50%	7.71%	15.21%
2020	11.00%	11.92%	22.92%	7.50%	7.92%	15.42%
2021	11.00%	12.13%	23.13%	7.50%	8.13%	15.63%
2022	11.00%	12.34%	23.34%	7.50%	8.34%	15.84%
2023	11.00%	12.55%	23.55%	7.50%	8.55%	16.05%
2024	11.25%	12.75%	24.00%	7.75%	8.75%	16.50%

**In addition to the rates above, an employer contribution to the fund by Special School District No. 1, Minneapolis, is an amount equal to 3.64% of the salary of each teacher who is a Coordinated or Basic member*

10-Year History of Changes in Fiduciary Net Position

(continued on next page)

(Dollars in Thousands)

Fiscal Year ended June 30	2015*	2016	2017	2018
Additions				
Member Contributions	$ 334,826	$ 347,256	$ 361,175	$ 374,550
Employer Contributions	340,208	354,961	367,791	378,728
Direct Aid (State/City/District)	41,587	35,587	35,587	35,587
Net Income (Loss) From Investing Activity	887,280	(23,672)	2,855,217	2,160,111
Other Income, Net	4,897	5,530	4,399	4,518
Total Additions to Fiduciary Net Position	$ 1,608,798	$ 719,662	$ 3,624,169	$ 2,953,494
Deductions				
Pension Benefits	$ 1,659,069	$ 1,718,694	$ 1,767,568	$ 1,820,751
Refunds	11,885	11,290	11,240	13,073
Administrative Expenses	11,509	11,338	11,702	15,673
Total Deductions from Fiduciary Net Position	$ 1,682,463	$ 1,741,322	$ 1,790,510	$ 1,849,497
Net Increase (Decrease)	$ (73,665)	$ (1,021,660)	$ 1,833,659	$ 1,103,997
Net Position Held in Trust, Beginning of Year	$ 20,519,756	$ 20,446,091	$ 19,424,431	$ 21,258,090
Net Position Held in Trust, End of Year	$ 20,446,091	$ 19,424,431	$ 21,258,090	$ 22,362,087

**Net position held in trust, beginning of year" were restated to reflect $226,071,060 of assets assumed as a result of merger with DTRFA.*

10-Year History of Pension Assets vs. Pension Liabilities

(continued on next page)

(Dollars in Thousands)

Fiscal Year ended June 30	2015	2016	2017	2018
Actuarial Accrued Liability (AAL)	$ 25,562,155	$ 26,716,216	$ 27,427,702	$ 28,643,023
Actuarial Value of Assets (AVA)	19,696,893	20,194,279	21,062,789	22,022,842
Unfunded Actuarial Accrued Liability (UAAL)	$ 5,865,262	$ 6,521,937	$ 6,364,913	$ 6,620,181
Funded Ratio	77.05%	75.59%	76.79%	76.89%

10-Year History of Changes in Fiduciary Net Position
(concluded)

(Dollars in Thousands)

2019	2020	2021	2022	2023	2024
$ 386,669	$ 396,679	$ 410,162	$ 428,993	$ 442,448	$ 480,136
403,300	425,223	448,829	482,679	508,764	544,667
35,587	35,587	37,840	35,590	35,587	211,754
1,579,099	939,749	6,684,106	(1,710,746)	2,213,897	3,199,055
4,237	3,402	3,702	3,531	1,966	803
$ 2,408,892	$ 1,800,640	$ 7,584,639	$ (759,953)	$ 3,202,662	$ 4,436,415
$ 1,865,693	$ 1,902,492	$ 1,937,441	$ 1,973,265	$ 2,010,438	$ 2,059,436
14,074	13,815	14,415	16,529	17,531	21,501
15,156	15,393	16,022	15,666	16,534	17,502
$ 1,894,923	$ 1,931,700	$ 1,967,878	$ 2,005,460	$ 2,044,503	$ 2,098,439
$ 513,969	$ (131,060)	$ 5,616,761	$ (2,765,413)	$ 1,158,159	$ 2,337,976
$ 22,362,087	$ 22,876,056	$ 22,744,996	$ 28,361,757	$ 25,596,344	$ 26,754,503
$ 22,876,056	$ 22,744,996	$ 28,361,757	$ 25,596,344	$ 26,754,503	$ 29,092,479

10-Year History of Pension Assets vs. Pension Liabilities
(concluded)

(Dollars in Thousands)

2019	2020	2021	2022	2023	2024
$ 29,246,174	$ 30,129,180	$ 30,814,967	$ 31,615,897	$ 35,008,293	$ 35,446,800
22,466,848	22,936,908	24,728,337	25,925,803	26,903,914	28,322,800
$ 6,779,326	$ 7,192,272	$ 6,086,630	$ 5,690,094	$ 8,104,379	$ 7,124,000
76.82%	76.13%	80.35%	82.00%	76.85%	79.90%

10-Year History of Benefits and Refunds by Type *(continued on next page)*

Fiscal year ended June 30

(Dollars in Thousands)

	2015	2016	2017	2018
Pension Benefits				
Annuities	$ 1,626,703	$ 1,687,085	$ 1,741,265	$ 1,789,400
Disabilities	12,063	11,967	11,985	11,559
Survivor Benefits	18,956	17,681	12,323	17,855
Total Pension Benefits	$ 1,657,722	$ 1,716,733	$ 1,765,573	$ 1,818,814
Annuities Redirected to Earnings Limitation Savings Account (ELSA)	$ 1,347	$ 1,961	$ 1,995	$ 1,937
Member Refunds				
Regular	$ 8,696	$ 8,284	$ 7,847	$ 8,799
Death	1,361	1,184	1,589	2,050
ELSA Refunds	1,659	1,621	1,632	2,020
Employer Refunds	169	201	172	204
Total Refunds	$ 11,885	$ 11,290	$ 11,240	$ 13,073
Total Benefits and Refunds	$ 1,670,954	$ 1,729,984	$ 1,778,808	$ 1,833,824

10-Year History of Benefit Recipients by Category

Fiscal year ended June 30

Year	Annuitants	Disabilitants	Survivors	Total
2015	56,589	571	4,826	61,986
2016	57,892	521	5,092	63,505
2017	58,991	517	5,268	64,776
2018	60,128	500	5,476	66,104
2019	61,079	486	5,723	67,288
2020	61,748	469	5,937	68,154
2021	62,369	442	6,222	69,033
2022	62,985	424	6,482	69,891
2023	63,219	429	6,696	70,344
2024	63,128	432	6,920	70,480

10-Year History of Benefits and Refunds by Type *(concluded)*

Fiscal year ended June 30

(Dollars in Thousands)

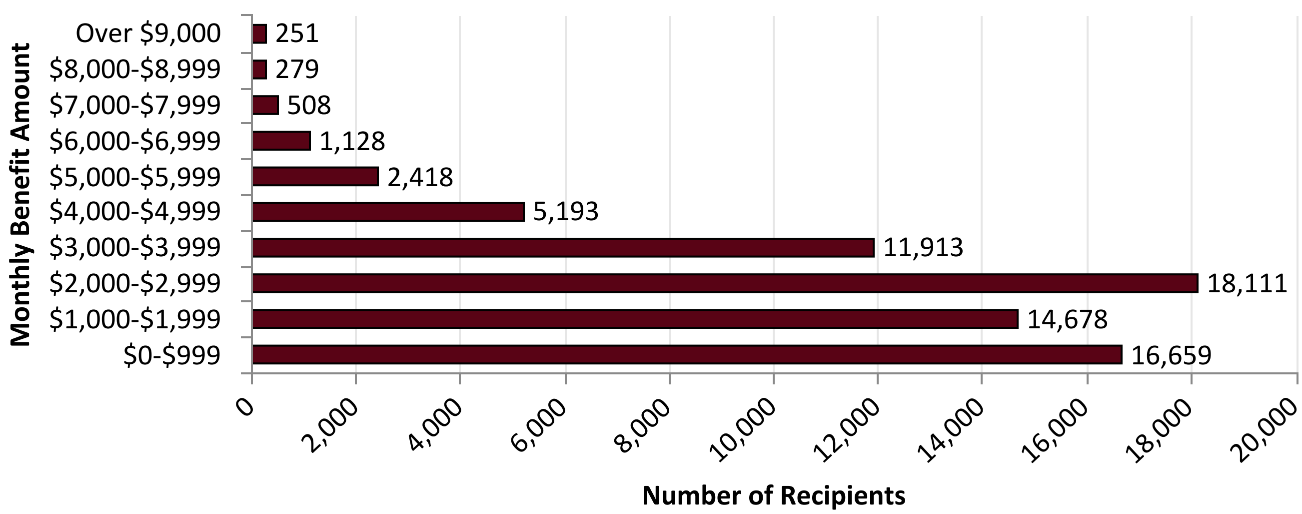
2019	2020	2021	2022	2023	2024
$ 1,834,547	$ 1,871,712	$ 1,906,057	$ 1,941,354	$ 1,980,199	$ 2,028,431
11,296	10,767	10,630	10,010	10,688	11,264
17,919	18,172	18,773	19,729	19,144	19,658
$ 1,863,762	$ 1,900,650	$ 1,935,460	$ 1,971,093	$ 2,010,031	$ 2,059,353
$ 1,931	$ 1,842	$ 1,981	$ 2,172	$ 407	$ 83
$ 9,839	$ 10,179	$ 11,087	$ 11,103	$ 13,848	$ 16,713
1,328	1,854	1,230	2,137	1,376	2,141
2,508	1,786	1,974	1,915	2,157	1,678
399	(4)	125	1,374	150	969
$ 14,074	$ 13,815	$ 14,416	$ 16,529	$ 17,531	$ 21,501
$ 1,879,767	$ 1,916,307	$ 1,951,857	$ 1,989,794	$ 2,027,969	$ 2,080,937

Schedule of Benefit Amounts Paid

For Month of June 30, 2024 — Payment Made June 1, 2024

Monthly Benefit Amount			Number of Recipients	Cumulative Total	Percent	Cumulative Percent
$0	–	$499	9,854	9,854	13.85%	13.85%
$500	–	$999	6,805	16,659	9.57%	23.42%
$1,000	–	$1,499	6,787	23,446	9.54%	32.96%
$1,500	–	$1,999	7,891	31,337	11.09%	44.05%
$2,000	–	$2,499	9,255	40,592	13.01%	57.06%
$2,500	–	$2,999	8,856	49,448	12.45%	69.51%
$3,000	–	$3,499	7,059	56,507	9.92%	79.43%
$3,500	–	$3,999	4,854	61,361	6.82%	86.26%
$4,000	–	$4,499	3,193	64,554	4.49%	90.74%
$4,500	–	$4,999	2,000	66,554	2.81%	93.56%
$5,000	–	$5,499	1,417	67,971	1.99%	95.55%
$5,500	–	$5,999	1001	68,972	1.41%	96.96%
$6,000	–	$6,499	687	69,659	0.97%	97.92%
$6,500	–	$6,999	441	70,100	0.62%	98.54%
$7,000	–	$7,499	302	70,402	0.42%	98.97%
$7,500	–	$7,999	206	70,608	0.29%	99.25%
$8,000	–	$8,499	165	70,773	0.23%	99.49%
$8,500	–	$8,999	114	70,887	0.16%	99.65%
$9,000	–	$9,499	70	70,957	0.10%	99.75%
$9,500	–	$9,999	64	71,021	0.09%	99.84%
$10,000	–	$10,499	33	71,054	0.05%	99.88%
$10,500	–	$10,999	27	71,081	0.04%	99.92%
$11,000	–	$11,499	16	71,097	0.02%	99.94%
$11,500	–	$11,999	11	71,108	0.02%	99.96%
$12,000	–	$12,499	7	71,115	0.01%	99.97%
$12,500	–	and over	23	71,138	0.03%	100.00%

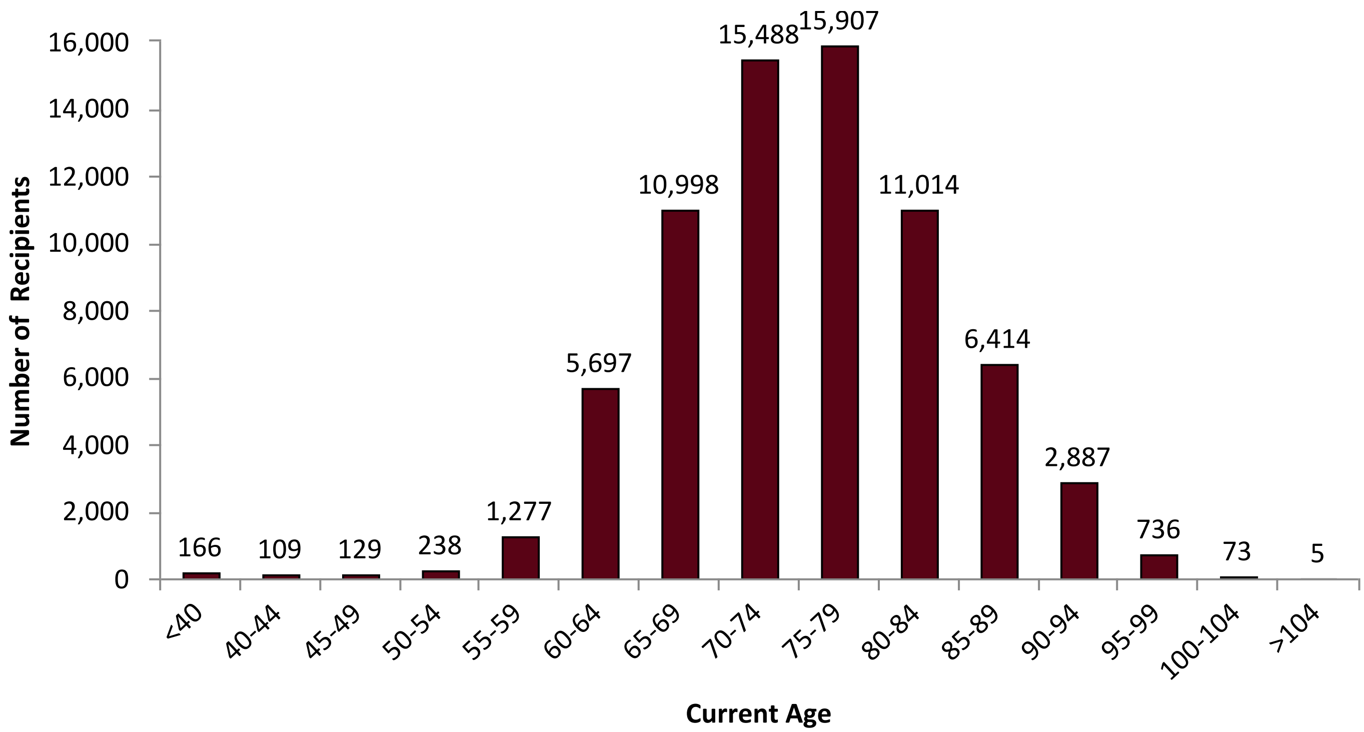
The median monthly TRA benefit amount is $2,488.



Schedule of Benefit Recipients by Current Age

For Month of June 2024 – Payment Made June 1, 2024

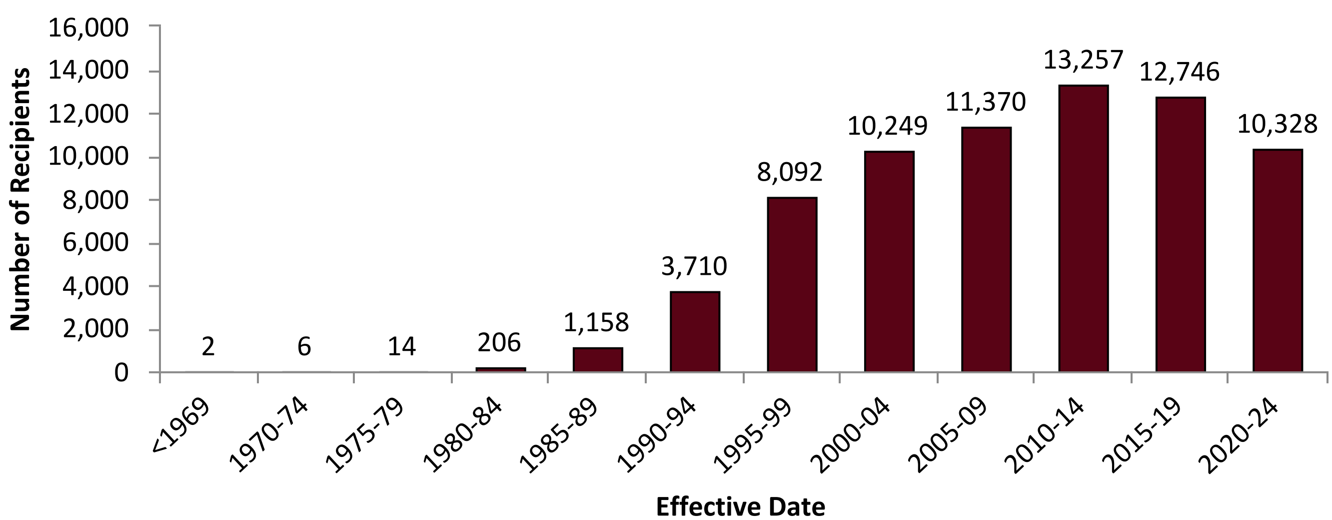
Total Recipients: 71,138



Benefit Recipients by Effective Date of Retirement

For Month of June 2024 – Payment Made June 1, 2024

Total Recipients: 71,138



Schedule of New Retirees and Initial Benefit Paid

For Ten Fiscal Years Ending June 30

	Years of Formula Service							
Fiscal Year	<10	10-15	16-20	21-25	26-30	31-35	>35	Total
2015								
Avg. Monthly Benefit	$ 361	$ 935	$ 1,493	$ 2,099	$ 2,748	$ 3,583	$ 4,162	$ 2,276
Final Average Salary	$ 26,624	$ 45,288	$ 58,477	$ 65,827	$ 70,081	$ 73,802	$ 76,641	$ 59,482
Number of Retirees	503	247	287	322	378	533	375	2,645
2016								
Avg. Monthly Benefit	$ 390	$ 980	$ 1,561	$ 2,147	$ 2,834	$ 3,699	$ 4,312	$ 2,357
Final Average Salary	$ 29,988	$ 46,588	$ 57,103	$ 66,988	$ 71,615	$ 76,136	$ 78,332	$ 61,320
Number of Retirees	478	234	276	368	358	501	365	2,580
2017								
Avg. Monthly Benefit	$ 344	$ 1,016	$ 1,583	$ 2,171	$ 3,028	$ 3,804	$ 4,459	$ 2,455
Final Average Salary	$ 38,355	$ 48,505	$ 61,936	$ 70,094	$ 75,721	$ 78,127	$ 81,997	$ 65,530
Number of Retirees	463	182	264	293	363	519	321	2,405
2018								
Avg. Monthly Benefit	$ 360	$ 1,006	$ 1,603	$ 2,227	$ 2,882	$ 3,963	$ 4,470	$ 2,548
Final Average Salary	$ 43,494	$ 50,267	$ 63,619	$ 70,647	$ 75,591	$ 80,068	$ 81,024	$ 67,818
Number of Retirees	435	191	250	296	373	604	311	2,460
2019								
Avg. Monthly Benefit	$ 348	$ 999	$ 1,654	$ 2,254	$ 2,950	$ 4,017	$ 4,556	$ 2,499
Final Average Salary	$ 41,313	$ 52,352	$ 63,666	$ 70,909	$ 76,494	$ 81,586	$ 83,897	$ 67,563
Number of Retirees	476	196	273	291	317	632	252	2,437
2020								
Avg. Monthly Benefit	$ 356	$ 1,019	$ 1,634	$ 2,326	$ 3,212	$ 4,195	$ 4,780	$ 2,657
Final Average Salary	$ 43,319	$ 51,073	$ 63,519	$ 72,573	$ 79,517	$ 83,464	$ 85,054	$ 69,488
Number of Retirees	450	166	199	280	320	609	231	2,255
2021								
Avg. Monthly Benefit	$ 371	$ 1,163	$ 1,679	$ 2,384	$ 3,214	$ 4,188	$ 4,944	$ 2,760
Final Average Salary	$ 46,291	$ 59,163	$ 67,699	$ 75,110	$ 81,047	$ 83,624	$ 87,000	$ 72,580
Number of Retirees	405	167	227	298	327	584	279	2,287
2022								
Avg. Monthly Benefit	$ 378	$ 1,070	$ 1,764	$ 2,429	$ 3,181	$ 4,329	$ 5,086	$ 2,781
Final Average Salary	$ 45,560	$ 57,077	$ 69,890	$ 76,207	$ 80,087	$ 86,600	$ 90,349	$ 73,209
Number of Retirees	419	189	235	253	304	608	258	2,266
2023								
Avg. Monthly Benefit	$ 386	$ 1,089	$ 1,690	$ 2,428	$ 3,342	$ 4,453	$ 5,195	$ 2,774
Final Average Salary	$ 46,873	$ 57,215	$ 67,453	$ 78,304	$ 84,899	$ 90,340	$ 93,072	$ 74,718
Number of Retirees	392	155	202	256	231	488	229	1,953
2024								
Avg. Monthly Benefit	$ 387	$ 1,160	$ 1,759	$ 2,534	$ 3,470	$ 4,407	$ 5,348	$ 2,763
Final Average Salary	$ 45,622	$ 60,917	$ 68,969	$ 78,637	$ 85,113	$ 90,271	$ 92,249	$ 74,010
Number of Retirees	368	148	172	217	225	348	233	1,711

Schedule of Benefit Recipients by Type

For Month of June 2024 — Payment Made June 1, 2024

Monthly Benefit Amount			Number of Recipients	Type of Retirement: Retirement	Disability	Beneficiary
$0	–	$1,000	16,677	14,789	96	1,792
$1,001	–	$2,000	14,677	12,650	130	1,897
$2,001	–	$3,000	18,115	16,256	123	1,736
$3,001	–	$4,000	11,914	10,901	63	950
$4,001	–	$5,000	5,179	4,745	21	413
$5,001	–	$6,000	2,418	2,193	3	222
$6,001	–	$7,000	1,126	1005	2	119
$7,001	–	$8,000	502	437		65
$8,001	–	$9,000	280	237		43
$9,001	–	$10,000	133	113		20
$10,001	–	$11,000	60	53		7
$11,001	–	$12,000	27	22		5
$12,001	–	$13,000	13	12		1
$13,001	–	$14,000	5	5		
$14,001	–	$15,000	6	4		2
$15,001	–	$16,000	1	1		
$16,001	–	and over	5	3		2
		Totals:	71,138	63,426	438	7,274

Membership Data

June 30, 2024

Distribution of Active Members*

(Average Earnings in Dollars)

	Years of Service as of June 30, 2024										
Age	**<3****	**3-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40 +**	**Total**
<25	2,776	98									2,874
Avg. Earnings	37,649	53,990									38,206
25-29	3,758	2,948	2,121								8,827
Avg. Earnings	42,321	53,950	60,389								50,546
30-34	2,105	1,342	5,136	1,560							10,143
Avg. Earnings	42,231	56,886	64,742	74,883							60,591
35-39	1,841	932	2,999	4,592	1,045						11,409
Avg. Earnings	39,508	59,023	68,302	78,108	87,231						68,578
40-44	1,887	807	2,251	2,596	4,316	1,203					13,060
Avg. Earnings	38,129	59,443	70,020	79,522	89,168	96,574					75,421
45-49	1,416	589	1,661	1,593	2,164	3,940	1,231				12,594
Avg. Earnings	36,490	58,678	70,200	79,941	87,079	96,098	100,148				81,033
50-54	1,021	436	1,127	1,189	1,285	1,962	3,755	830			11,605
Avg. Earnings	35,465	54,402	67,872	77,663	85,406	92,204	97,622	100,996			83,568
55-59	775	318	761	786	926	1,091	1,928	2,576	205		9,366
Avg. Earnings	33,309	57,117	66,883	77,955	81,296	88,821	94,477	97,336	101,171		83,489
60-64	592	181	397	417	500	617	729	632	287	27	4,379
Avg. Earnings	24,566	44,583	61,604	71,518	78,774	84,607	91,394	95,786	97,894	97,403	74,531
65-69	390	69	146	119	121	105	93	47	32	31	1,153
Avg. Earnings	14,786	41,588	49,494	67,939	80,590	89,955	91,612	88,809	102,556	100,997	53,990
70 +	343	48	57	24	17	18	13	8	6	18	552
Avg. Earnings	9,333	23,354	32,779	45,637	69,781	92,529	97,606	75,432	111,942	109,027	26,529
Total	16,904	7,768	16,656	12,876	10,374	8,936	7,749	4,093	530	76	85,962
Avg. Earnings	37,526	55,634	66,078	77,811	86,736	93,546	96,583	97,698	99,602	101,622	71,119

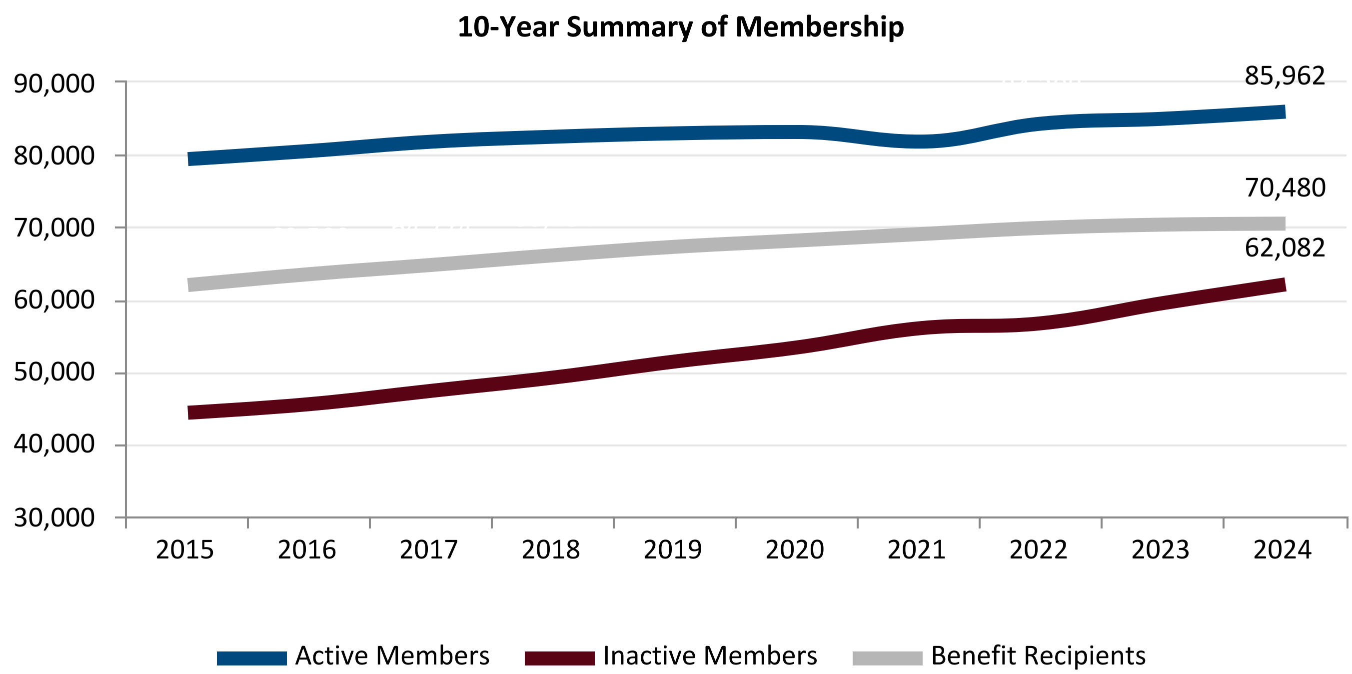
* *Active members include 1 Basic and 85,961 Coordinated members.*

** *This exhibit does not reflect service earned in Combined Service Annuity benefits. It should not be relied upon as an indicator of non-vested status.*

In each cell, the top number is the count of active members for the age/service combination and the bottom number is the amount of average annual earnings. Earnings shown in this exhibit are actual salaries earned during the fiscal year ending June 30, 2024 as reported by TRA.

10-Year Summary of Membership
For fiscal year ended June 30

Year	Active Members	Inactive Members	Benefit Recipients
2015	79,406	44,340	61,986
2016	80,530	45,530	63,503
2017	81,811	47,374	64,774
2018	82,495	49,211	66,104
2019	82,965	51,436	67,285
2020	83,149	53,380	68,154
2021	81,821	56,017	69,033
2022	84,308	56,715	69,891
2023	84,983	59,507	70,344
2024	85,962	62,082	70,480



Principal Participating Employers

Fiscal year ended June 30, 2024 and June 30, 2015

	2024			2015		
Employer Unit Name	Covered Employees	Rank	Percentage of Active Membership	Covered Employees	Rank	Percentage of Active Membership
Anoka-Hennepin - ISD #11	3,652	1	4.56%	3,186	2	4.01%
Minneapolis - Special School District #1	3,388	2	4.23%	4,086	1	5.15%
Rosemount - Apple Valley - Eagan - ISD #196	2,516	3	3.14%	2,483	4	3.13%
Minnesota State	2,503	4	3.12%	2,738	3	3.45%
Osseo - ISD #279	1,769	5	2.21%	1,724	5	2.17%
Rochester - ISD #535	1,759	6	2.19%	1,596	7	2.01%
South Washington County - ISD #833	1,471	7	1.84%	1,652	6	2.08%
Minnetonka - ISD #276	1,074	8	1.34%	—	—	—%
Bloomington - ISD #271	1,073	9	1.34%	1,108	9	1.40%
Robbinsdale - ISD #281	1,065	10	1.33%	1,135	8	1.43%
St. Cloud - ISD #742	—	—	— %	1,093	10	1.38%

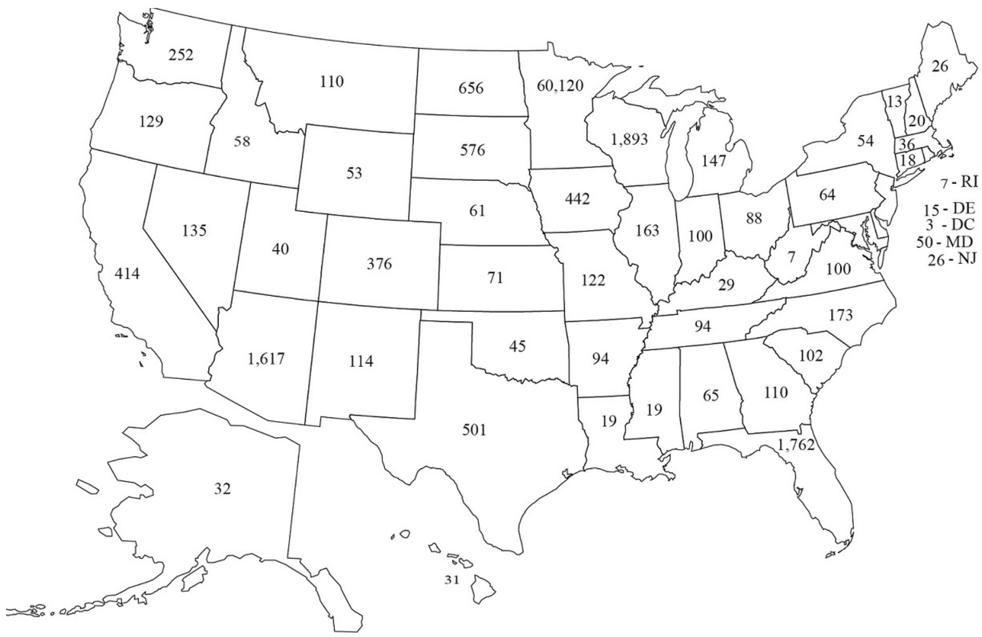
Number of Employer Units

As of fiscal year ended June 30

Year	Independent School Districts	Minnesota State	Charter Schools	State Agencies	Others	Total
2015	373	39	167	5	5	589
2016	373	39	174	4	5	595
2017	373	39	173	4	4	593
2018	374	39	169	4	4	590
2019	376	39	182	4	4	605
2020	375	39	182	4	4	604
2021	373	39	189	4	4	609
2022	372	34	192	4	4	606
2023	372	34	192	4	4	606
2024	369	34	185	4	3	595

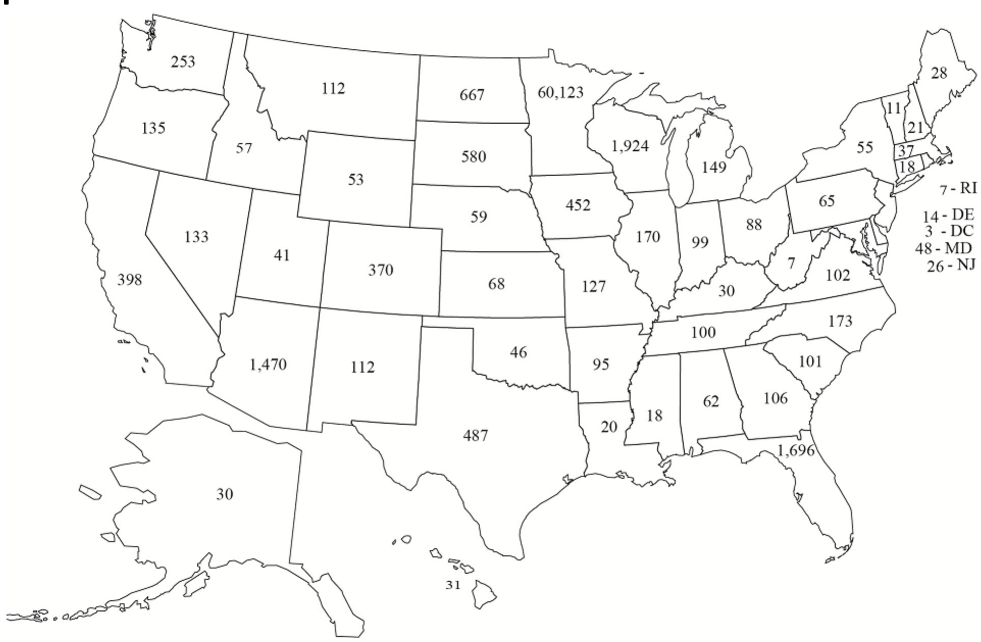
Distribution of Benefits
Mailing Address of Benefit Recipient

February 1, 2024



Total Recipients: 71,311
Note: 59 recipients reside outside the United States
Minnesota recipients: 84.31%

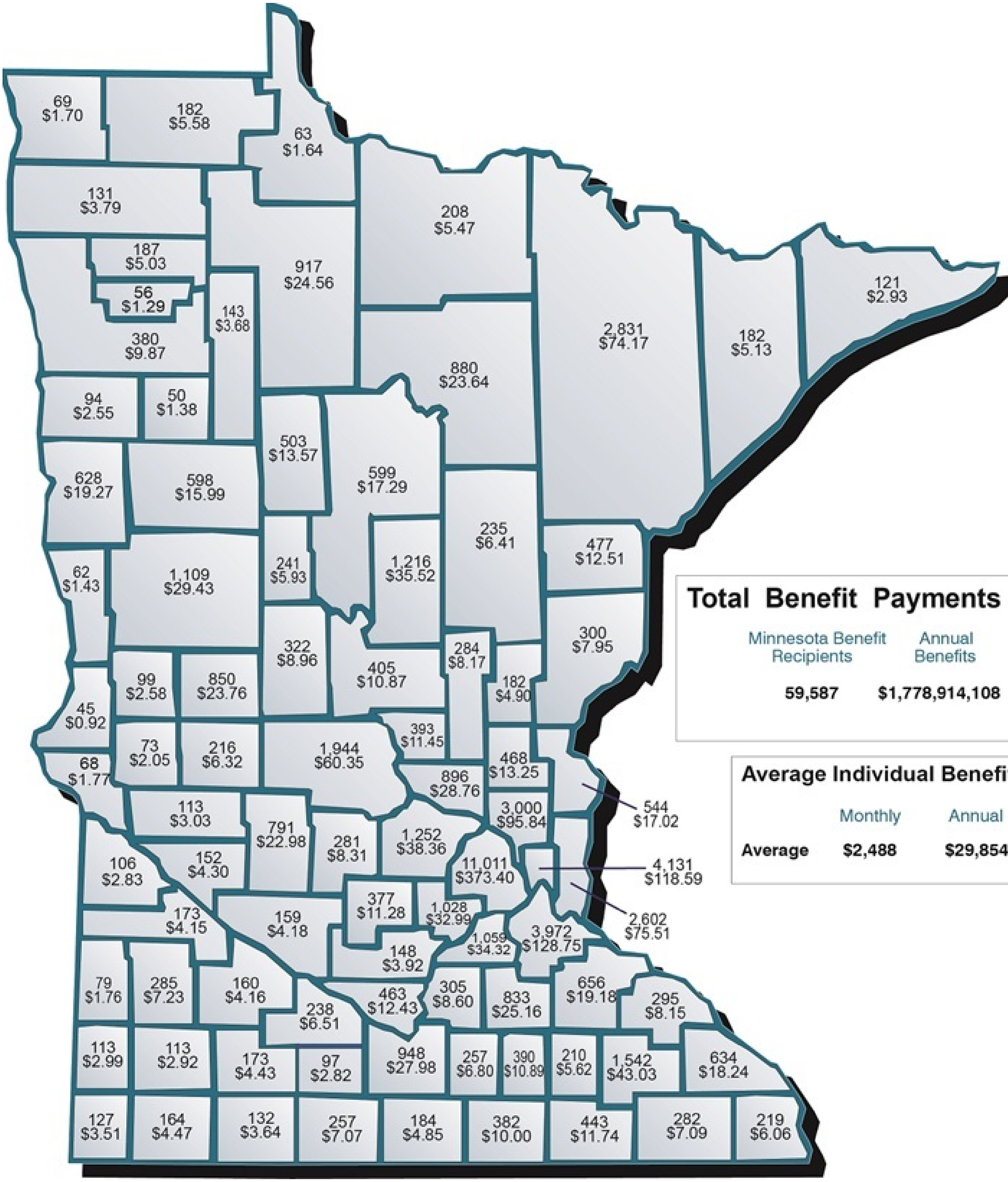
June 1, 2024



Total Recipients: 71,138
Note: 61 recipients reside outside the United States
Minnesota recipients: 84.52%

Annual Benefit Recipients by County on June 30, 2024

(Dollars in Millions)



Total Benefit Payments

Minnesota Benefit Recipients	Annual Benefits
59,587	$1,778,914,108

Average Individual Benefit

	Monthly	Annual
Average	$2,488	$29,854

As of June 30, 2024

County	Members	Annual Benefit	County	Members	Annual Benefit
Aitkin	235	$ 6,412,826	Martin	257	$ 7,069,771
Anoka	3,000	95,844,333	McLeod	377	11,277,707
Becker	598	15,993,604	Meeker	281	8,308,452
Beltrami	917	24,557,630	Mille Lacs	284	8,166,284
Benton	393	11,454,234	Morrison	405	10,869,847
Big Stone	68	1,769,055	Mower	443	11,744,015
Blue Earth	948	27,982,449	Murray	113	2,920,415
Brown	238	6,505,986	Nicollet	463	12,427,187
Carlton	477	12,508,317	Nobles	164	4,470,108
Carver	1,028	32,993,133	Norman	94	2,549,062
Cass	599	17,294,680	Olmsted	1,542	43,031,064
Chippewa	152	4,298,703	Otter Tail	1,109	29,432,640
Chisago	544	17,022,939	Pennington	187	5,031,048
Clay	628	19,274,582	Pine	300	7,946,994
Clearwater	143	3,677,338	Pipestone	113	2,986,082
Cook	121	2,925,025	Polk	380	9,869,812
Cottonwood	173	4,432,517	Pope	216	6,318,228
Crow Wing	1,216	35,520,633	Ramsey	4,131	118,592,127
Dakota	3,972	128,746,614	Red Lake	56	1,288,157
Dodge	210	5,621,040	Redwood	160	4,158,890
Douglas	850	23,757,669	Renville	159	4,181,013
Faribault	184	4,845,405	Rice	833	25,160,907
Fillmore	282	7,093,293	Rock	127	3,507,408
Freeborn	382	10,001,969	Roseau	182	5,576,806
Goodhue	656	19,178,972	Saint Louis	2,831	74,170,589
Grant	99	2,584,183	Scott	1,059	34,323,998
Hennepin	11,011	373,395,870	Sherburne	896	28,755,917
Houston	219	6,056,173	Sibley	148	3,915,428
Hubbard	503	13,570,111	Stearns	1,944	60,351,719
Isanti	468	13,254,440	Steele	390	10,889,385
Itasca	880	23,644,576	Stevens	73	2,053,113
Jackson	132	3,640,685	Swift	113	3,034,467
Kanabec	182	4,900,465	Todd	322	8,961,840
Kandiyohi	791	22,975,925	Traverse	45	917,812
Kittson	69	1,701,051	Wabasha	295	8,151,239
Koochiching	208	5,465,587	Wadena	241	5,926,756
Lac Qui Parle	106	2,833,272	Waseca	257	6,797,378
Lake	182	5,127,729	Washington	2,602	75,514,495
Lake Of The Woods	63	1,642,928	Watonwan	97	2,815,187
Le Sueur	305	8,600,257	Wilkin	62	1,426,985
Lincoln	79	1,758,651	Winona	634	18,244,951
Lyon	285	7,234,256	Wright	1,252	38,360,778
Mahnomen	50	1,379,601	Yellow Medicine	173	4,148,520
Marshall	131	3,790,821	Grand Total	59,587	$ 1,778,914,108

Projected Benefit Payments
Fiscal Year Ended June 30, 2024

The table below shows estimated benefits expected to be paid over the next 25 years, based on the assumptions used in the valuation. The Active column shows benefits expected to be paid to members currently active on July 1,2024. The Retirees column shows benefits expected to be paid to all other members. This includes those who, as of July 1,2024, are receiving benefit payments or who terminated employment and are entitled to a deferred benefit.

Cash flows are the expected future non-discounted payments to current members. These numbers exclude refund payouts to current non-vested inactive and assume future retirees and future terminated members make benefit elections according to valuation assumptions.

(Dollars in Thousands)

Year Ending June 30	Active	Retirees	Total
2025	$ 68,251	$ 2,019,323	$ 2,087,574
2026	123,005	1,980,848	2,103,853
2027	175,315	1,946,550	2,121,865
2028	232,181	1,913,140	2,145,321
2029	295,150	1,881,192	2,176,342
2030	366,118	1,847,925	2,214,043
2031	446,576	1,813,557	2,260,133
2032	537,164	1,777,559	2,314,723
2033	637,712	1,741,603	2,379,315
2034	746,853	1,703,652	2,450,505
2035	863,144	1,663,369	2,526,513
2036	987,123	1,620,854	2,607,977
2037	1,119,687	1,575,040	2,694,727
2038	1,259,610	1,525,162	2,784,772
2039	1,407,283	1,471,424	2,878,707
2040	1,563,794	1,415,063	2,978,857
2041	1,729,034	1,356,044	3,085,078
2042	1,902,048	1,294,648	3,196,696
2043	2,082,792	1,231,425	3,314,217
2044	2,269,387	1,166,925	3,436,312
2045	2,461,614	1,101,690	3,563,304
2046	2,658,927	1,035,157	3,694,084
2047	2,858,421	968,788	3,827,209
2048	3,058,337	903,038	3,961,375
2049	3,257,740	838,491	4,096,231

Note: *Numbers may not add due to rounding.*

PLAN STATEMENT

Teachers Retirement Association of Minnesota
A Pension Trust Fund of the State of Minnesota

TRA Plan Statement

June 30, 2024

Purpose

The Minnesota Teachers Retirement Association (TRA) was established on July 1, 1931, by the state legislature. Its purpose is to improve educational service and better compensate teachers in order to make the occupation of teaching in Minnesota more attractive to qualified persons by providing a retirement benefit schedule that rewards faithful and continued service.

Administration

TRA is managed by eight trustees - three are statutorily appointed and five are elected. The statutory trustees are the Commissioner of Education, the Commissioner of the Minnesota Department of Management and Budget (MMB) and a representative of the Minnesota School Boards Association. Four of the five elected trustees are active members and one is a retiree. Administrative management of the fund is vested in an Executive Director who is appointed by the Board of Trustees. The Board also contracts with an actuary and uses legal counsel provided by the office of the Attorney General.

Membership

All teachers employed in public elementary and secondary schools, joint powers, charter schools and all other educational institutions maintained by the State of Minnesota (except those teachers employed by the St. Paul school district or certain faculty of Minnesota State) are required to be members of TRA.

Teachers employed by Minnesota State may elect TRA coverage within one year of their eligible employment. Newly-tenured Minnesota State members also have a one-year period to elect TRA coverage. If electing TRA, the individual must pay for the past service covered by TRA, and the cost of past service is based on full actuarial cost. No Minnesota State teacher is a member except for purposes of Social Security coverage if that teacher has coverage by the Defined Contribution Retirement Plan administered by the Minnesota State Board.

Retirement Service Credit

Service credit earned for benefit determination is based on a teacher's earned salary relative to an annual base salary established for an employer unit. Minnesota statute defines the base salary for each employer as the lowest salary paid to a full-time Bachelor of Arts (BA) base contract in the previous fiscal year. For example, a school district's annual base salary is determined to be $40,000. A teacher with an earned salary of $30,000 for that year will earn 0.75 year of service credit.

Service credit for Minnesota State members is based on a full-time equivalence method.

No more than one year of service credit may be earned by any member during a fiscal year, and no more than 0.111 per year may be earned during any one month.

Financing

Benefits are financed by employee contributions, employer contributions, investment earnings and turnover gains. Turn-over gains are employer contributions retained by the fund when members take refunds of their employee contributions.

Vesting

In a pension plan, vesting means a member has earned sufficient service credit to be eligible for a monthly benefit.

TRA members who have performed covered service after May 15, 1989, are vested after three years of teaching service. TRA members who last worked prior to May 16, 1989, require five years or, in some cases, ten years of service credit earned in order to be eligible for a monthly annuity benefit.

Employee Contributions

TRA members pay a percentage of their gross annual salary as determined by their membership plan. Basic Plan members (without Social Security coverage) contribute 11.25% of their annual salary, while Coordinated Plan members (coordinated with Social Security coverage) contribute 7.75% of their annual salary. Beginning July 1, 2025 the employee contribution rate will increase by .25% for both plans.

Employer Contributions

Local school districts and other TRA-covered employer units provide contributions of 12.75% of total salary for members in the Basic Plan and 8.75% of total salary for members in the Coordinated Plan. For Coordinated Plan members, the employer unit also makes the required matching contribution to the Social Security Administration. Beginning July 1, 2025, the employer contribution rate will increase by .75% for both plans.

Minneapolis Special School District #1 pays an employer additional contribution of 3.64% of annual salary for TRA members employed by that school district.

TRA also receives approximately $35.6 million annually in state and local direct aid. The aid payments are designed to offset unfunded liabilities assumed with the 2006 merger of the Minneapolis Teachers Retirement Fund Association (MTRFA) and the 2015 merger of the Duluth Teachers Retirement Fund Association (DTRFA). In fiscal year 2024, TRA received an additional $176.2 million as part of the 2023 Omnibus Pensions and Retirement Bill and is expecting to receive an additional $28.5 million in fiscal year 2025 as part of the 2024 Omnibus Pensions and Retirement Bill.

Retirement Benefit

The retirement benefit is determined by a formula based on the member’s average salary earned on the highest five successive years of formula service credit, an accumulated percentage factor based on the total years of service credit, and the member’s age at retirement. The retirement benefits for members who were first hired before July 1, 1989, are different from the retirement benefits for members who were first hired after June 30, 1989.

Coordinated Members First Hired *Before* July 1, 1989

For members first hired before July 1, 1989, the retirement benefits (with average salary defined as the average of the highest five successive annual salaries) are the greater of:

The sum of:

- 1.20% of average salary for the first 10 years of allowable service;
- 1.70% of average salary for each subsequent year in excess of 10 years prior to July 1, 2006; and
- 1.90% of average salary for each year of allowable service July 1, 2006 and after.
- No actuarial reduction if age plus years of service totals 90. Otherwise, reduction of 0.25% for each month the member is under age 65 (or age 62 if 30 years of allowable service) at the time of retirement.

or

The sum of:

- 1.70% of average salary for each year of allowable service prior to July 1, 2006; and
- 1.90% of average salary for each year of allowable service beginning July 1, 2006.
- Actuarial reduction applies for each month the member is under full Social Security benefit retirement age, but not to exceed age 65.

or

- For eligible members, first hired prior to July 1, 1989, the monthly benefit that is actuarially equivalent of 2.2 times the members' accumulated deductions plus interest thereon.

Benefit reductions for retiring prior to meeting normal retirement definitions apply. Members who reach age 62 with 30 years of service are eligible for a more favorable set of reduction factors than members who do not reach age 62 and 30 years of service. An extract of the reduction table for members who did not reach 30 years of service is presented below:

Age 62	10.40%
Age 63	6.64%
Age 64	3.18%
Age 65	— %

Members who do not reach age 62 with 30 years of service credit are eligible for a different group of factors. Effective July 1, 2024, the following reduction factors will be applied to an eligible person of the normal retirement age of 65:

Age 55	58%	Age 61	28%
Age 56	54%	Age 62	21%
Age 57	50%	Age 63	14%
Age 58	46%	Age 64	7%
Age 59	42%	Age 65	—%
Age 60	35%		

Coordinated Members First Hired *After* June 30, 1989

For members first hired after June 30, 1989, the retirement benefits (with average salary defined as the average of the highest five successive annual salaries) is the sum of:

- 1.70% of average salary for each year of allowable service prior to July 1, 2006; and
- 1.90% of average salary for each year of allowable service beginning July 1, 2006.

Benefit reductions for retiring prior to meeting normal retirement definitions apply. The actuarial reduction is based on a statutory definition rather that actuarial equivalence factors. The 2018 Legislature modified the reduction rates over a 60-month period beginning July 1, 2019. The following tables are extracts from the set of reduction factors applied.

Reduction factors for members of the normal retirement age of 65 first hired from July 1, 1989 through June 30, 2006 and who reach age 62 with 30 years of service credit:

Age 62	10.40 %
Age 63	6.64 %
Age 64	3.18 %
Age 65	— %

Effective July 1, 2024, the following reduction factors are applied to an eligible person with the normal retirement age of 65 first hired from July 1, 1989 through June 30, 2006 and who do not reach age 62 with 30 years of service credit:

Age 55	58 %	Age 61	28 %
Age 56	54 %	Age 62	21 %
Age 57	50 %	Age 63	14 %
Age 58	46 %	Age 64	7 %
Age 59	42 %	Age 65	— %
Age 60	35 %		

Reduction factors for members of the normal retirement age of 65 first hired on or after July 1, 2006 and who reach age 62 with 30 years of service credit:

Age 62	11.70 %
Age 63	7.55 %
Age 64	3.65 %
Age 65	— %

Effective July 1, 2024, the following reduction factors will be applied to an eligible person with the normal retirement age of 65 first hired after June 30, 2006 and who do not reach age 62 with 30 years of service credit:

Age 55	58 %	Age 61	28 %
Age 56	54 %	Age 62	21 %
Age 57	50 %	Age 63	14 %
Age 58	46 %	Age 64	7 %
Age 59	42 %	Age 65	— %
Age 60	35 %		

Effective July 1, 2024, the normal retirement age decreased to age 65.

Basic Members (Former MTRFA)

TRA has 1 active and 3 inactive from the former Minneapolis Teachers Retirement Fund Association (MTRFA) who were transferred to TRA effective June 30, 2006. Under the merger legislation, this group of former MTRFA members retains eligibility for the benefit provisions as provided by the MTRFA Articles of Incorporation and by-laws as they existed on June 30, 2006.

The retirement benefits for these members (with average salary defined as the average of the highest five successive annual salaries) are:

- 2.50% of average salary for each year of teaching service.
- No actuarial reduction applies if the retiring member is age 60 or any age with 30 years of teaching service.

If the member is age 55 with less than 30 years of teaching service, the retirement benefit is the greater of:

a. 2.25% of average salary for each year of teaching service with reduction of 0.25% for each month the member is under the age first eligible for a normal retirement benefit.

or

b. 2.50% of average salary for each year of teaching service assuming augmentation to the age first eligible for a normal retirement benefit at 3.00% per year, and actuarial reduction for each month the member is under the age first eligible for a normal retirement benefit.

An alternative benefit is available to members who are at least age 50 and have seven years of teaching service. The benefit is based on the accumulation of the 6.50% "city deposits" to the retirement fund. Other benefits are also provided under this alternative benefit, depending on the member's age and teaching service.

Basic Members (Non-MTRFA)

As of June 30, 2024, TRA had 3 inactive members who retain eligibility for the Basic Plan and who do not have eligibility for the provisions for former MTRFA Basic members. The retirement benefits (with average salary defined as the average of the highest five successive annual salaries) are the greater of:

a. 2.2% of average salary for each of the first 10 years of allowable service and 2.7% of average salary for each subsequent year with reduction of 0.25% for each month the member is under age 65 at time of retirement, or under age 62 if 30 years of allowable service. No reduction if age plus years of allowable service totals 90.

b. 2.7% of average salary for each year of allowable service assuming augmentation to age 65 at 3% per year, and actuarial reduction for each month the member is under age 65.

or

c. For eligible members, a money purchase annuity equal to the actuarial equivalent of 2.2 of the member's accumulated deductions plus interest thereon

All members in this group have reached normal retirement age and are no longer subject to early retirement penalties.

Deferred Retirement

Members with three or more years of allowable service (ten or more years of allowable service if termination of teaching service occurs before July 1, 1987, and five or more years of allowable service if termination of teaching service occurs after June 30, 1987, but before May 16, 1989) who terminate teaching service in schools covered by the association may have their retirement benefit deferred until they attain age 55 or older.

Members who defer their benefits will receive a deferral increase as follows:

Members hired prior to July 1, 2006	Prior to July 1, 2012: 3% annually through December 31 of the year in which the member would have reached 55 and 5% annually thereafter each year the benefit is deferred After July 1, 2012 until June 30, 2019: 2% After June 30, 2019; 0%
Members hired on or after July 1, 2006	Prior to July 1, 2012: 2.5% After July 1, 2012 to June 30, 2019: 2% After June 30, 2019: 0%

The deferral period must be at least three months. If on a leave of absence, the member is not eligible for the deferral increase on a deferred annuity for any portion of time on leave.

Annuity Plan Options

Six different annuity plan options are available to TRA members that provide monthly benefit payments for as long as the annuitant lives. The No Refund Plan provides the highest possible monthly benefit, but terminates upon the member's death. A member may choose to provide survivor benefits to a designated beneficiary(ies) by selecting one of the five plans that have survivorship features.

A married member must choose one of the three survivorship plans (plans 4 through 6) listed below at retirement, unless the member's spouse waives the right to this type of annuity.

1. No Refund, For Life of Member
2. Guaranteed Refund of Contributions
3. 15-Years Guaranteed
4. 100% Survivorship with Bounce back
5. 75% Survivorship with Bounce back
6. 50% Survivorship with Bounce back

Annual Post-Retirement Increases

Once retired, each January, if specified by law, a post-retirement increase may be made to a member's monthly benefit.

Under 2018 legislation and first applicable on January 1, 2019, the annual post-retirement increase is 1% for a five-year period. Beginning January 1, 2024, the adjustment will rise to 1.1% and on January 1, 2025, the adjustment will be 1.2%. The adjustment will be 1.3% on January 1, 2026 and 1.4% on January 1, 2027. Beginning January 1, 2028 and years following, the annual adjustment will be 1.5%.

On January 1,

- a benefit recipient who has been receiving an annuity or benefit for at least 12 full months as of June 30 of the calendar year before the adjustment will receive the full post-retirement increase in statute for that January 1st.
- a benefit recipient who has been receiving an annuity or benefit for at least one full month, but less than 12 months as of June 30 of the calendar year before the adjustment will receive a prorated post-retirement increase.

Combined Service Annuity

Any vested member having combined service credit with any two or more Minnesota public retirement funds that participates in the combined service annuity program, may elect to receive a combined service annuity upon compliance with eligibility requirements for retirement.

Refunds

Upon termination of teaching service and application, TRA will issue a refund of a member's accumulated contributions plus interest compounded annually. Contributions made prior to June 30, 2011 accrue an annual interest rate of 6%. Contributions from July 1, 2011 to June 30, 2018 accrue interest at an annual rate of 4%. Beginning July 1, 2018, contributions will accrue interest at a rate of 3% annually.

A refund will be issued only if the member has officially resigned from employment and the official refund application form is submitted no sooner than 30 days after termination of teaching service.

Repayment of Refunds

Members who return to teaching service after previously withdrawing their contributions may repay these contributions upon completing two years of allowable service. The repayment must include interest of 8.5%, compounded annually from the date of the refund(s) through June 30, 2018. The interest rate for the repayment accrues at 7.5% from July 1, 2018 through June 30, 2023 and then 7% from July 1, 2023 until date of the repayment.

Disability Benefits

An active member who becomes disabled after at least three years of allowable service is eligible to apply for a total and permanent disability benefit provided at least two of the required three years of allowable service are performed after last becoming a member. State statute defines total and permanent disability as the inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to be of a long, continued and indefinite duration. An indefinite duration is a period of at least one year.

Survivor Benefits of Members Prior to Retirement

Certain benefits are available to the survivor(s) of members who die before officially retiring with TRA. Beneficiary designation options vary for single members and married members.

Single Members

Non-Vested

- A lump-sum death benefit equal to a member's accumulated deductions plus interest to the date of death is payable to either the designated beneficiary or estate, whichever is applicable. Interest is compounded annually at 4%. Contributions made by the employer are not included in this benefit. A member may designate any person(s), trust, or organization(s) as a beneficiary.

Vested

- For a member without a surviving spouse at the time of death, survivor benefits will automatically be paid for a period certain to all dependent children under the age of 20, unless the member has chosen the lifetime monthly benefit option explained in the next paragraph. These payments are made from the date of death to the date each dependent child attains age 20 if the child is under age 15 on the date of death. If the dependent child is 15 years or older on the date of death, payments will be made for five years. Payments for children under the age of 18 would be made to a custodial parent or court-appointed guardian. A dependent child is a biological or adopted child who is under 20 years of age and who is dependent on the member for more than one-half of his or her financial support.
- A member may designate payment of lifetime monthly benefits for either former spouse(s), or dependent and non-dependent, biological or adopted child(ren), instead of the above described surviving dependent child(ren) benefits being paid.
- For a member without a former spouse or dependent child(ren) at the time of death, either the designated beneficiary or estate, whichever is applicable, is entitled to a lump-sum death benefit equal to accumulated deductions plus interest to the date of death. Interest on account balances is compounded annually at 4%. Contributions made by the employer are not included in this benefit. A member may designate any person(s), trust, or organization(s) as a beneficiary.

Married Members

A surviving spouse has precedence over any designated beneficiary.

Non-Vested

- A member's spouse is entitled to a lump-sum death benefit equal to the accumulated deductions plus interest to the date of death. Interest on account balances is compounded annually at 4%. Contributions made by the employer are not included in this benefit.

Vested

- A member's surviving spouse may elect to receive a lifetime annuity in lieu of a lump-sum benefit. The lifetime annuity is payable on a monthly basis for the lifetime of the spouse. Payments terminate upon the death of the spouse with no benefits remaining for other beneficiaries.
- Instead of a lifetime annuity, a member's spouse may elect to receive actuarially equivalent payments for a term certain annuity of 5, 10, 15 or 20 years. The amount of the annuity is based upon a formula, the member's age at the time of death and the age of the spouse when benefits begin to accrue, although monthly benefit payments cannot exceed 75% of the member's average High-5 monthly salary.
- A member and their spouse may jointly make a specification to waive the spouse’s benefits so that designated beneficiary(ies) will receive a lifetime survivor annuity benefit. The designated beneficiary may be either the member’s former spouse(s) or the member’s biological or adopted child(ren). Under a joint specification, a designated beneficiary cannot elect a term certain annuity of 5, 10, 15 or 20 years. If a joint specification is not on file, the annuity is payable only to the surviving spouse.

Non-Vested or Vested

- A member and their spouse may jointly make a specification to waive the spouse’s benefits so that any person, trust or organization will receive a lump-sum death benefit equal to the accumulated deductions plus interest to the date of death.

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